SUMMARY REPORT
YMIP GRANT #99-058

1999 PROSPECTING AND GEOCHEMICAL SURVEYS

HIGHLAND LAKE AREA	105M – 7
LITTLE SALMON LAKE AREA	105L – 1,2
KENO HILL AREA	105M – 13,14

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SUMMARY REPORT – YMIP GRANT 99-058

Sampling Methods

Rock samples were collected by breaking rocks into small pieces and placing them in plastic sample bags. The bags were labeled by felt pen, and tied with flagging tape. Wet samples were opened at camp to allow drying, and then retied.

Soil samples were collected from holes dug with a spade, and placed into Kraft paper soil sample bags. Samples were dried, and then placed in plastic rice bags for shipment.

Stream sediments were placed into a sieve in a gold pan to remove pebbles and coarse sand. Silt was then placed into Kraft paper sample bags and dried prior to shipment.

Analytical Methods

All of the samples collected in this prospecting program were analyzed in one batch by Acme Analytical Laboratories Ltd. of Vancouver.

Soil and silt samples, and rock samples that were visually weakly mineralized were analyzed by the Group 1F1 Ultratrace multi-element procedure as follows: 1.00 gm sample leached with 6 ml 2-2-2 HCl - HNO3 - H2O at 95 degrees C for one hour, diluted to 20 ml, analyzed by ICP/ES & MS.

Rock samples with abundant visible mineralization were analyzed by the Group 7 multi-element assay as follows: 1.000 gm sample with aqua – regia digestion to 100 ml, analyzed by ICP-ES.

EVALUATION AND PROSPECTING SURVEY

Highland Lake area, 105M – 7

This area was prospected June 15 to 24, 1999 by Mann and Mueller.

Location and Access: South of the Stewart River and north of Kalzas Twins. Access by floatplane and helicopter.

Previous Work: This area lies north of the Kalzas Twins occurrence, Minfile 105M 066. This area was explored for W-Sn-Mo mineralization in the early 1980's. Recent exploration for Tombstone-related Au is not known.

Details of Evaluation: Work consisted of conventional prospecting: breaking rocks supplemented by soil and stream sediment geochemistry. Work was focused on three intrusive targets. The first was a stock mapped by Bostock and Roots north of Highland Lake. The second was a small stock mapped only by Bostock. The third area is a broad plateau underlain by a strong magnetic anomaly thought to be related to an intrusion. This area lies immediately south of the Kalzas Twins.

Methods: Work consisted of conventional prospecting: breaking rocks supplemented by soil and stream sediment geochemistry. Panning of stream gravels did not produce any heavy minerals, so this method was unsuccessful.

Analytical Results: There were only a few, weak anomalies generated from this work. The highest gold value returned is 3 ppb. The highest silver value 571 ppb. Bi and W are commonly slightly anomalous, however the maximum values obtained are 4.77 and 0.8 ppm respectively.

Conclusions and Recommendations: This area was disappointing geologically and geochemically. The first area visited, the exposed stock, had no attractive rocks or anomalies associated with it. The stock mapped by Bostock near Highland Lake was not

found, and probably does not exist. The Highland Plateau area was the best target from preliminary research, but has almost no surface expression of the underlying intrusion. The best-looking rocks are the hornfelsed and veined Hyland Group at the north-central part of the plateau, however these rocks are not significantly enriched in metals. There are no anomalies that I would follow up.
It was expected that a large, strong intrusive system with one known large hydrothermal deposit (Kalzas Twins) would have associated dykes, faults and veins present on the overlying plateau. It is possible that this mineralizing system is effectively capped by the overlying rocks, and a significant deposit may lie at depth. I still like this target, but I am not sure what exploration methods would work here short of deep drilling.

EVALUATION, PROSPECTING and GEOCHEMISTRY SURVEY

Little Salmon Lake area, 105L – 1,2

This area was prospected July 8 to 11, and a soil survey was conducted on September 30, 1999.

Location and Access: Access is by the Campbell Highway, west of Carmacks.

Previous Work: This area has seen some prospecting, and a few minor showings have been located. It is relatively underexplored for specific targets such as Finlayson – type VMS deposits and Ice – type VMS deposits. Discovery of VMS mineralization in a roadcut in the Yukon Tanana Terrane by Yukon Geology Program geologists demonstrates high potential in this area. There are few valid claims in the area.

Details of Evaluation: I was unable to get boat access to the south side of the lake, and my partner quit on me, so I only spent 5 days here.

A high level Cretaceous granite was identified, with tourmaline-rich pegmatite dykes and rusty hornfels at the contacts. This granite was the target of a soil geochemistry survey on Sept. 30, sample numbers 28757 to 28766.

The easily accessible part of the YTT contained uninspiring rocks except for those already staked.

A weak carbonate-hosted copper showing was evaluated on July 11.

Methods: Work consisted of road-accessed conventional prospecting supplemented by soil and stream sediment geochemistry. No heavy minerals were identified by panning stream sediments.

Analytical Results: The most interesting result came from a single soil sample (02368 at stn. 14, 105L-2) in an area underlain by middle Mississippian metavolcanics and metavolcaniclastic rocks (Colpron's units 3v and 3vc), which returned 25 ppb Au and anomalous Pb, Se, Ag, Mo, Bi, and Te. Follow-up prospecting is recommended in this area. Low Cu and Zn values here are the only negative factors.

Another anomaly was returned from sample LS18 – 013, with 19 ppb Au and anomalies in Ag, Fe, Sb, Bi, V, Hg and Se. This sample is rusty schist near the highway, mapped by Colpron as early Mississippian and older (unit 2). This area should be investigated in more detail, as it lies west of the NINA claims.

The copper vein/skarn showing on 105L-1, investigated July 11 returned high Cu with anomalous Ag and Sb. This showing appears to have limited potential.

The soil survey over the granite returned only very weak anomalies of Au, Ag and Sb.

Conclusions and Recommendations: The anomaly at Stn. 14, 105L –2 should be followed up with prospecting and a small soil grid.

The anomaly at stn. 18 should be followed up by prospecting along strike and preliminary soil sampling.
The south side of the lake should be prospected.
The granite doesn't appear to be well mineralized, however there is potential for dimension stone at the gravel pit on the east side of the intrusion where attractive breccias and pegmatite boulders are present.

KENO HILL AREA

EVALUATION AND PROSPECTING SURVEY

Blue claim (previously Blue Jacket), 105M 14

Prospecting was conducted here September 9 & 29, 1999.

Location and Access: The claim straddles Lightning Creek canyon, southwest of Keno City. Access is from the Duncan Creek road.

Previous Work: The Blue Jacket claim was first staked by Thomas Hinton in 1920. A small adit was driven in the 1920's (probably). There is no record of this work. The claim was acquired by United Keno Hill, and lapsed in 1999. There is no physical evidence of work other than the adit. The claim is adjacent to the Flame and Moth mine, which was in production when mining ceased, and hosts significant mineralization.

Details of Evaluation: The adit is driven on a mineralized vein fault that is well exposed on the wall of the canyon. See diary for description.

Methods: Conventional prospecting was conducted on September 9, as there is lots of outcrop along Lightning Creek canyon. A soil survey was conducted on the plateau above the canyon September 29.

Analytical Results: The mineralization from the adit is low grade for the Keno Hill area: 6.44 oz/t Ag associated with 7.11 % Pb indicates a low-grade concentrate. This is from a single sample, and may not be representative. This sample should be analyzed for Au also.

The soil line (28791 – 28799) returned good anomalies for Au (to 53 ppb), Ag (144 to 397 ppb), Cd, Sb, As and Hg.

Conclusions and Recommendations: The vein fault exposed on the claim is not too attractive, however it may indicate good potential at depth. The host rock in the canyon is mostly schist and phyllite, not the thick-bedded quartzite that is the prime Keno area host rock. Quartzite is expected to occur at depth on the claim. The mineralization at the adjacent Flame and Moth claims may continue onto the Blue claim, as some structure trend in this direction.

Soil geochemistry appears to work well in this area, and a more extensive survey is recommended. It may be possible to trace the vein fault through the thin overburden on the plateau above the canyon.

EVALUATION AND PROSPECTING SURVEY

Wernecke Railroad area, 105M – 14. Survey conducted September 10, 11, 25, 1999.

Location and Access: This area lies on the north slope of Keno Hill below the Sadie-Ladue mine and the Wernecke town site.

Previous Work: This area is described by Minfile 105M 017. There has been extensive prospecting since 1920. Bulldozer trenching is common, and there have been a few diamond drillholes. Test pits are common, and a shallow shaft and adit are shown on

Boyle's map. The area of felsic dykes visited on September 25 has been bulldozer trenched, but this work doesn't seem to be described by Minfile.
Details of Evaluation: The greenstone area just north of Sadie was explored to examine potential for replacement deposits. The skarn-like zones were found to be very weak and low grade. The old adit and shaft lower on the hill were also very weak.
The area of Tombstone dykes was examined for gold potential. The rocks exposed are an unusual muscovite porphyry, possibly due to a phyllic type of alteration. Mineralization is visually weak, but outcrop is mostly in trenches.
Methods: Conventional prospecting, some soil samples.
Analytical Results: Assays from higher on the hill returned Ag values up to 3.62 oz/t. The area of Tombstone dykes has Au values to 292 ppb. This area is anomalous in Pb, Zn, Ag, As, U, Th, Sb, Bi, Tl, Hg, and Se.
Conclusions and Recommendations: The felsic dyke area appears to have gold potential. A soil grid, which extends to the north and south of the bulldozed area is recommended, using Ultratrace multi-element geochemistry.
The area higher on the hill appears to have limited potential, and no further work is recommended.

EVALUATION AND PROSPECTING SURVEY
McMillan Gulch area, 105M – 14. Prospected September 12, 1999.
Traverse to investigate Bema occurrence, Minfile 105M 073, and McMillan Gulch. All of this area is open ground.
Location and Access: McMillan Gulch lies to the northeast of Mt. Hinton. Access is by road along Lightning Creek to McNeill Gulch, then by foot or ATV.
Previous Work: 3 vein zones were discovered in the 1980's. A skid trail was constructed, with minor trenching and drilling.
Details of Evaluation: There is very little true outcrop in this area – many large boulders. The veins are abundant, but very narrow and discontinuous, with weak mineralization. Most of the Bema area is underlain by Earn Group schists (metavolcanic?).
Methods: Conventional prospecting. A large area was covered in a single day.
Analytical Results: Two rock samples, BE-023 & -024, were collected. One sample (024) was weakly anomalous in Mo, Cu, Ag, As, Cd and Sb. Both samples returned 6 ppb Au.
Conclusions and Recommendations: The veins observed were unimpressive, and analytical results poor. No further work is recommended.

EVALUATION AND PROSPECTING SURVEY
"ONE" claim and Ironclad area, Keno Hill. Prospecting here September 13 and 23, 1999. Some open ground is present on Keno Hill, along strike from the Onek mine, and across the valley from the Bellekeno mine. Note that the Aila 2 claim (Ironclad mine), YB 98407 has lapsed, despite being shown as valid on the older claim maps.
Location and Access: This claim is crossed by the Keno Summit road at its junction with a road that heads to Lightning Creek at Thunder Gulch.
Previous Work: The Ironclad occurrence, 105M 063, had considerable underground exploration in the 1950's, but mineralization apparently was weak. Several large bulldozer trenches test the area above the adit.

The ONE claim has no evidence of significant physical work, but has been staked several times because of its favorable location.
Details of Evaluation: The mine dumps from the Ironclad have very little mineralization. The adit appears to have followed a more or less barren structure through quartzite, phyllite and greenstone. The adit is collapsed, and there is a lot of trash present at the site.
The ONE claim is underlain by quartzite, where rocks are visible. There is nothing on surface to indicate mineralization, however this claim was staked based on projections of two strong, well-mineralized structures at Onek and Bellekeno.
Methods: Conventional prospecting, soil geochemistry.
Analytical Results: Test pits were dug at each of the two areas, with samples at different depths, in an attempt to see whether there is any benefit to digging deep holes. Results are inconclusive. Ag and Au are anomalous at the ONE claim.
Conclusions and Recommendations: The ONE claim is well located from a mining camp structural geology perspective. A soil geochemical survey is recommended here. There may be depth potential at the Ironclad occurrence; the area seems to have been fairly well tested near surface.

EVALUATION AND PROSPECTING SURVEY
Nord area, Minfile 105M 025. September 22 and 24, 1999. A strip of open ground is present along the highway, between the Nord occurrence and the Cream and Jean occurrence.
Location and Access: This area follows the Silver Trail Highway, and lies west of the junction with the Hanson Lakes/ Wind River Trail.
Previous Work: There is no record of work done on the claims that are open. Some bulldozer stripping has been conducted, however this may have been done for road construction.
Details of Evaluation: Some weak, barren quartz veins were inspected.
Methods: Conventional prospecting.
Analytical Results: No samples were collected here.
Conclusions and Recommendations: No further work is recommended in this area.

EVALUATION AND PROSPECTING SURVEY
Erickson Gulch, western Keno Hill and Christal Creek area. Prospected September 26, 1999.
Location and Access: This area lies immediately north of the Silver Trail Highway, northeast of Christal Lake, on the lower western slope of Keno Hill near Keno City.
Previous Work: No previous work is known here, although claims covered this area for many years. The overburden was mapped by Bond as TMx, a till complex 3 to 20m thick.
Details of Evaluation: This area has no outcrop! It is boggy, with thick overburden.
Methods: Conventional prospecting and soil geochemistry.
Analytical Results: Three soil samples, 02386 to 02388, were collected. The samples returned elevated values for Mo, Cu, Pb, Zn, Ni, Co, Mn, As, Cd and Hg. Au was 2 to 4 ppb. Ag values were 615 to 756 ppb.

Conclusions and Recommendations: Although the soil geochemistry is anomalous, this is not surprising for an area between Keno Hill and Galena Hill and underlain by Earn Group metavolcanics. No further work is recommended due to lack of outcrop.

SOIL GEOCHEMICAL SURVEY
"Hanson Hill" area, 105M – 14, 106D – 3. Survey conducted September 27, 1999.
Location and Access: The hill lies south of Hanson Lakes and northwest of Gambler Lake, at the boundary between the two map sheets. Access is by road to Hanson Lakes.

8 soil samples, 02378 to 02385 were collected along the 900m elevation contour at 500m spacing. Samples were collected by spade from as deep as could easily be dug, usually about 35cm, in the C horizon; B horizon was only weakly and locally developed. Weak anomalies are present for Au (max. 6 ppb), Ag (max. 399 ppb), Mo, As, Cd, Ba, Se, and Bi. The area is underlain by Earn Group grey carbonaceous phyllite, which tends to be elevated in some metals. The results from this survey are not impressive, and no further work is recommended.

SOIL GEOCHEMICAL SURVEY
"Duncan Hill" area, 105M – 13. Survey conducted September 28, 1999.
Location and Access: This hill is located southeast of Halfway Lakes, and is accessed by the Duncan Creek road. The traverse began at a gravel pit at km 5 of the Duncan Creek road.
9 soil samples, 028748 to 028756 were collected along a traverse line at 250m spacing. Samples were collected by spade from as deep as could easily be dug, usually about 25 to 35cm, in the C horizon; B horizon was only weakly and locally developed. The area is underlain by Hyland Group rocks. No significant anomalies were detected by the survey, and no further work is recommended.

1999 DAILY PROSPECTING DIARY – BILL MANN

PROSPECTING NOTES: - JUNE 15, 1999

Fly in to no-name ("Ghost") Lake, about 3 km North of Highland Lake with Michel (Mayo Air Service). 2 trips by Supercub for myself and Heiko. Delay due to forest fire recce by Michel. Fire burning North and Northeast of Highland Lake. Partner: Heiko Mueller.

Stn. 1. Outcrop near camp: gneiss, phyllite (Grit Unit). Quartz sweats common. Strong folded lamination.

Topo map gives declination as 33 degrees 24 min. East as of 1970, but doesn't give annual change! Assume 33 degrees, check later.

More similar rocks further along peninsula. Inspect quartz veining carefully, nothing of interest. Less than 1% outcrop along peninsula. No samples collected.

PROSPECTING NOTES: - JUNE 16, 1999

Sunny, hot. Traverse to North toward granite plug.

Stn. 2. Hill North of Ghost Lake (low hill southeast of main hill). Metaquartzite with Quartz "stockwork", looks barren. Quartz float common, white with minor red hematite stain.
Rock Sample W02 – 001 White Quartz Vein, slightly vuggy. Collected ~50m south of ridge top.
Small outcrops of phyllite and metaquartzite, about 2 to 3 % outcrop on this hill.

Stn. 3. Follow rocky ridge south to main ridge ~5+% outcrop. Fairly monotonous phyllite, metaquartzite. Less Quartz vein material than at Stn. 2. Some hardening and development of coarse-grained micas due to hornfelsing (?).

Stn. 4. Biotite Granite, south-dipping contact with Grit unit. Granite is fairly equigranular. No quartz veinlets noted in granite. Contact is approximately conformable with cleavage in the Grit unit. Possible apophyse dyke at this point. No chill margin.

Stn. 5. Granite has no Quartz veining, looks very "dry". Hornfels also dry-looking. Generally dissappointing.

Very hot, muggy, with lots of smoke from fire to the southeast. Lots of mosquitoes and black flies. Impressed with Charlie Roots field mapping.
Continue traverse to the west, more or less along ridge top. Local tight minor folds.

From Northwest end of ridge follow contour back toward camp at about 4100 foot elevation. Small outcrops and float common in dense forest. Muscovite phyllite is most common lithology.

Stn. 6. Metaquartzite, impure (psammite?).

Stn. 7. Muscovite phyllite, S.O.S. Some metaquartzite.

No streams encountered today to sample. Gone from camp from about 9.30 to 5.30, didn't have enough water. Must be over 25 degrees.

PROSPECTING NOTES: - JUNE 17, 1999
Cooler, wind from the east blowing in dark clouds. About 15 degrees. Leave camp at 8.10. From end of lake head due southeast toward East end of Highland Lake to check small granite outcrop noted on Bostock's map. Will also check on location of forest fires in the area.

Stn. 8. Outcrops and float on north-facing slope. "Grits" with abundant folded metamorphic Quartz Veins. Thick bedded metaquartzite yields large rectangular talus blocks.

Stn. 9. Small outcrop near small lake or pond. Metaquartzite.

Cross flat, boggy heavily-forested area, arrive at nice pebble beach at northeast end of Highland Lake by 10.30.

Stn. 10. Small outcrop about 200m from the Northeast corner of the Lake: metasediment (phyllite) with horsetail Quartz Veins and a few specks of pyrite that appear to be formational. Rock Sample W10-002 Selective grab of above.

Rock Sample W10-003 about 200m uphill from sample 002, sheared Quartz-rich rock with irregular vugs containing quartz crystals, limonite, dark brown goethite (?). Pyrite grains about 0.2%. Hard rock. Best-looking rock seen so far this trip, but still quite unimpressive.

Possible archeological site in this area – very old stumps cut by a dull axe, small cave with parallel limbed logs covering the bottom. "Cave" is really just a large crevice between blocks of quartzite. Barely large enough for one person to wiggle into.

Stn. 11. Phyllite knoll about 500m from the Lake. Noon, have lunch. No granite seen yet, despite considerable looking in the area on the map. Can smell smoke here, but cannot see any fire.

Stn. 12. Follow ridge from 11, to Northeast about 1km. More grit and phyllite.
Forest fire is about 2km to the North, and about 3.5km from camp. Head down into the Highland Valley, follow lower part of ridge toward Lake. Significant outcrop/ subcrop.

Stn. 13. Phyllite cleaves into thin plates. Gritty muscovite phyllite with limonite stain, minor MnO2.

Lots of grit slab caves along this north-facing slope.

Return to Stn. 10 area – Bostocks granite was not found. Very dissappointing. Credit to Roots for ignoring it.
Quite hot by 4pm – aobut 23 degrees.

Stn. 14. Typical Grit variations along trail. Vista to fires – small one about 2.5km from camp! Return to camp about 5.30.

PROSPECTING NOTES: - JUNE 18, 1999
Sunny, hot early in the day. Leave camp about 8.10 am. Head Northwest along lake, then head about due west to hills.

Stn. 15. Arrive on rounded knoll at 9.30. no outcrop noted, Grit float.

Continue to next hill at 280 degrees Azimuth.

Stn. 16. Variations of the Grit unit. Mostly tightly folded phyllites.

Local granite float southwest of Drybones Peak granite (this area is down-ice).
An area about 20m diameter has large granite blocks up to 3m long. May be subcrop or a dyke.

Stn. 17. Knob beside creek, lots of outcrop in this area, but all Grit unit.

Head downstream to North to look for sulphide mineralization identified by Roots ("specks of pyrite-marcasite-chalcopyrite"). Heiko and I split up. We both break lots of rocks with little of interest so far.

Stn. 18. Rusty outcrop near creek, location noted by Roots to be mineralized. Break lots of rock: muscovite phyllite with thin quartzite beds.
Rock Sample W18-004 composite chip of best-looking rusty phyllite/quartzite with trace pyrite. No copper minerals noted. Grey, grungy very fine-grained pyrite in vugs. Pyrite likely formational, remobilized to vugs??
Stream Sediment Sample 02351 Stream channel about 20cm wide, dry at this time. Grey-brown silt and sand.

Return to camp.
Very hot again today – over 25 degrees. Very concerned about forest fires, one to Northeast of camp is moving closer! Decide to move camp, call Michel for 8am pickup tomorrow.

PROSPECTING NOTES: - JUNE 19, 1999
Move camp to Highland Plateau, south of Highland Lake and north of Kalzas Twins. Camp set beside west-flowing creek at about 5200 feet elevation (well above treeline).
Very hot in valley, rain showers on cool mountain plateau.

Stn. 19. Camp site. Mountain stream washes rocks clean. Lots of Hyland Group (Grit) variants. One boulder of chert-pebble conglomerate, rounded.
Pan stream – no heavy minerals, all quartz, feldspar and micas.
Silt Sample 02352

Note that this stream is a linear feature that corresponds to a fault drawn on one of Roots field maps. No outcrop near camp.

About 14 caribou pass by camp.

PROSPECTING NOTES: - JUNE 20, 1999
Overcast, rain, fog, brightening by about 10am.
Traverse to East to find outcrop. Lots of scattered talus despite very flat terrain.
Hyland Group rocks seem harder to break – often have green or purple colour = hornfels?
Cleavage obscured in dense green rock – definite hornfels about 1km from camp. Some MnO2 staining.

Stn. 20. "Magmar Zone", (named after a fire Pokemon). Talus field with hornfels, including local sheeted quartz veins! Some unidentified fine-grained silver sulphide minerals. Some rusty staining, MnO2 staining. Most boulders are angular to sub-rounded. Area is flat, locally swampy with a slight slope to the North, hard to locate accurately in the fog.

Sunny breaks by noon, still lots of fog and wind. Tors at about 120 degrees azimuth, about 400m away. West end of Highland Lake is due North.
Small cairn built near good boulders. Soil is boggy, brown clay-silt with angular pebbles to boulders. No soil profile is developed. Mostly pale brown clay and boulders.
Soil Sample 02353 sample collected near cairn.
Rock Sample W20-005 brown, green, grey hornfels with 1-10mm Quartz veins, usually parallel, minor pyrite and silver sulphides in rock matrix and veins.
Rock Sample W20-006 hornfels with Quartz veins and sulphides (similar to above), collected about halfway to Tors. Angular talus, hornfels with veinlets. About 100m Southeast of cairn. Pale grey-green hornfels, white parallel Quartz veins about 3mm wide. Trace pyrite(?).

Stn. 21. Tor outcrop. Probably Roots "unusually pure white sandstone". I will consider the possibility that the purity may be due (partly?) to hydrothermal bleaching. The rock is of the Hyland Group grits, is probably hornfelsed (very weak cleavage, hard), and has sheeted quartz veinlets.
Note: Quartz veins seen today keep a consistent width and orientation for the entire length of the boulders/ outcrops. This is in sharp contrast to the irregular quartz veins present in the Hyland Group observed previously near the lakes to the north. Is this analogous to sheeted veins reported at Kalzas Twins, or in Tombstone intrusions (thought to underlie the plateau)???

Some laminated meta-mudstones/ slates along the ridge to the north-northeast.

Boulder with sheeted veins in Quartzite that attenuate at a shale layer. These veins may be metamorphic in origin, with the more brittle quartzite susceptible to parallel fracturing. Shale is more ductile, therefore no veining. These "sheeted" veins do not look very attractive.

Quartzite talus, shaley flat areas along ridge.

Stn. 22. Mostly boring quartzite, minor quartz veins.

Stn. 23. Silt Sample 02354 Elevation about 4900'. Very bouldery stream (angular Grits). Linear North-flowing stream, about 800-900m downstream from Stn. 20.
Panning yields no heavy minerals.

PROSPECTING NOTES: - JUNE 21, 1999
Overcast, fog, drizzle, rain last night.
Head downstream from camp to west.

Stn. 24. Silt sample 02355 One km (by hip chain) from camp, just below small tributary entering from south. Rapid stream, angular boulders, not much silt. No heavy minerals recovered by panning. Rocks mostly grey & brown metasandstones.

Stn. 25. Silt sample 02356 About one km further downstream. Very rapid stream, silt recovered from moss mats. No gravel to pan.

Head to north up ridge. Metasandstone, minor phyllite, slate.

Stn. 26. Soil sample 02357 Very poorly developed grey-brown clay/silt with angular pebbles and boulders. Soil is saturated at about 30 cm depth.

Slatey phyllites near large snow patch; metasandstones with spaced cleavage produce slabby talus.

Stn. 27. Soil sample 02358 Northwest corner of ridge. Red-brown soil, no weathering profile, angular pebbles & boulders.
Stn. 28. Rock Sample W28-007 Grungy green metasandstone with phyllitic cleavage, very fine-grained pyrite +?. Pyrite 0.5 – 1%, <0.5mm. Mineralized rock is in talus, only a few rocks here are mineralized. The mineralized rocks are only slightly rusty, and do not appear to be hornfelsed or hydrothermally altered.

Stn. 29. Silt sample 02359 Small, boggy stream with silt on banks. No gravel, so no panning.

Stn. 30. Silt sample 02360 Small, boggy stream. No gravel.

Stn. 31. Rocky headland – phyllite, phyllitic sandstone, a bit slatey. Non-hornfelsed appearance. Gentle dip.

Stn. 32. More hornfels along saddle, about 500m WNW of "Magmar" zone.

Return to camp.

Evening traverse to top of hill near camp.
Stn. 33. No hornfels noted on hill. Some slatey phyllite, dark grey with compositional layering common. Sandstones have phyllitic partings.
Remnant of air photo control point – probably Union Carbide vintage (early 1980's).

PROSPECTING NOTES: - JUNE 22, 1999
Sun and clouds. Head south from camp to explore southeast quadrant of plateau. Several caribou on plain.

Stn. 34. Some hornfelsed metasandstone. Generally moderate to strong hornfels.

Stn. 35. Rock Sample W35-008 Boulder with mineralization similar to Magmar – strong hornfels, quartz veins, pyrite, MnO2, silver mineral (unidentified – possibly crystalline pyrolusite). Most rocks in this area have weak hornfels.

Stn. 36. Pale metasandstone with white quartz veins, similar to tor to north (pure white sandstone of Roots).

Stn. 37. Soil sample 02361 This area is on trend with the Kalzas Twins fault (?). Grey-brown clay-rich wet soil with angular rocks. Orange-brown clay starts at about 40cm depth.

Stn. 38. Hard metasandstone all along east side of the hill. Minor slate. Often has hornfels appearance ?? No mineralization noted.

PROSPECTING NOTES: - JUNE 23, 1999
Sunny in morning, lots of clouds around. Hard rain last night.. Traverse to southwest quadrant of plateau.

Stn. 39. Brown-weathering float – relatively fissile, soft metasandstone, phyllitic partings. Not hornfelsed.

Cubic cavities locally common, occasional limonite pseudomorphing pyrite.

Stn. 40. Soil sample 02362 Saturated pale brown mud to about 30 cm depth. Angular to subround cobbles.

Stn. 41. Rock Sample W41-009 Quartz-pyrite boulder about 40 x 30 x 20 cm. Blue-grey and white quartz. Pyrite maximum 0.3mm. Very fine-grained unidentified silver mineral present (may just be pyrite). Specimen saved in addition to assay sample. No host rock is attached to the vein boulder. No similar rocks were found in this area. Anomalous in Bi, but dissappointing Ag and Au.

Rock Sample W41-010 Collected about 20m uphill from 009, not for assay. Quartz-eye Plagioclase Porphyry dyke (?) boulder. About 20 x 10 x 5 cm. Very siliceous matrix, granular texture. Glassy eyes to 5mm, Plagioclase to 6mm. No similar rocks nearby despite considerable searching and breaking.
It is possible that this rock is an extreme variation of the grit unit – very coarse quartz and feldspar grains, with very siliceous matrix. The granular, rounded nature of the "phenocrysts" is ambiguous.

Soil Sample 02363 collected about 5m downslope from 009. 15cm deep, brown soil, some roots to this depth. Anomalous Ag, Bi, Tl, Zn.

Less outcrop and talus along the western slope of this hill than others. Hyland Group rocks have typical variations here.

Stn. 42. Soil sample 02364 20cm depth, pale brown soil, angular Hyland Group cobbles and pebbles.

19 Caribou lying down on plain, about 4 bulls.

Stn. 43. Boulder field about 150 x 50 m. Angular to subround, almost all Hyland Group. A few cobbles, but nothing smaller. Two rounded granite boulders found – biotite, plagioclase and quartz, equigranular.

PROSPECTING NOTES: - JUNE 24, 1999
Sunny, some clouds. Dry overnight (for a change!). 12 caribou inc. 1 calf on plain.

Stn. 44. Pure metasandstones, local slatey phyllite. Slatey bands tend to be recessive weathering, metasandstones resistant. Highest part of this hill is mostly slatey, fissile with few large boulders. Some metasandstone. Phyllitic sandstone with rusty weathering locally present.
Some black slate present.

Head to Stn. 20 (Magmar zone) for a second look.

Stn. 45. Rock Sample W45-011 One boulder with mineralization similar to Magmar: hornfelsed metasandstone, blotchy colouring, narrow (<5mm) quartz veins, grey, white and clear quartz with pyrite and other unidentified fine-grained sulphides (?). Slight fizz to rock, probably a calc-silicate hornfels. Specimen collected in addition to assay sample. Location about 500 m south of Magmar. Tor is about 200m at 060 degrees azimuth.

Break more rocks around station 20.

PROSPECTING NOTES: - JULY 8, 1999

Little Salmon Lake Area.

Dustin Blackjack prospecting partner.

Prospect along Robert Campbell Highway, starting at the Little Salmon Lake campground entrance at the west end of the lake.

Stn. 1. Highly deformed outcrop: muscovite-chlorite schist. Quartz-calcite sweat veins. Trace pyrite locally. Local coarse-grained plagioclase.

Similar rock outcrops 2.5 km east of stn. 1.

Stn. 2. Several outcrops of muscovite-chlorite schist. Local red hematite. MnO_2 staining. Slickensides common, with SW plunge to lineation. Some blocky quartzite or metasandstone.

Stn. 3. Granite outcrop. Quartz-feldspar-hornblende-biotite granite (quartz diorite??). Trace pyrite, rusty weathering. Chilled margin on west side of outcrop. Roche moutonee confirms westerly ice movement. Near KM post 496.

More granite heading east for next 2 km, including large area near lake shore.

Stn. 4. Muscovite-chlorite schist. Cleavage is almost horizontal.

Schist with isoclinal (recumbent?) folds 2.2 km further east.

Stn. 5. Muscovite-chlorite schist. Middle section is rusty, thin-bedded. NE dipping cleavage and layering. Near KM post 488.

Stn. 6. Muscovite schist. NE dip. Locally schist has coarse-grained quartz, brown carbonate and coarse-grained pyrite cubes up to 2% of unit.

Green bands have red-brown garnets up to 2mm. Trace pyrite. Chlorite schist, may be mafic volcanic. Bands are thin, approx. 10 cm.

Stn. 7. Muscovite-chlorite-biotite schist and phyllite. Locally slatey, fissile.

Stn. 8. Recessive outcrop of muscovite schist. Quartz stringers common. Rusty weathering. Unusual healed Quartz-carbonate breccia with muscovite, local tourmaline (?). Hard rock, poor cleavage to massive.
Rock Sample LS8-012 Not assayed (appear to be on VMS claims.)

1.7 km further east claim posts for Nina 1 & 2 located on cliff above highway at sharp bend. These claims seem to cover the VMS occurrence discovered by Colpron et. al.
Quartz-sericite schist with pyrite-magnetite-rich iron formation investigated.

6km east of stn. 8 is a NWTel access road heading to the north up the mountain.
[Note that easement 013 shown on the claim map is not the NWTel road, but is the powerline to the microwave tower. The road is not plotted on the claim map, and is inaccurately plotted on the topo map.]

PROSPECTING NOTES: - JULY 9, 1999

Sunny, hot. Hike up old NWTel road, hope to gain access to ridge with microwave tower above NINA claims.

Beginning of road underlain by Slide Mtn. Greenstone (metavolcanics), according to regional geology map.

Stn. 9. Small outcrop beside highway, gravel pit – highly sheared, epidote green rock with quartz-calcite vein. Vein is irregular, with local patches of tourmaline.

Follow road up & up for a long way with no outcrop.

Stn. 10. Silt Sample 02365 Small creek flows southwest. Culvert is washed out here, sample collected upstream. Very thick bush. Local boulders are mostly granular greenstone with poor cleavage.

Stn. 11. Silt Sample 02366 Major creek flows southwest. Two culverts washed out, trees cut to allow very rough road access around washout through creek. No good landmarks to pinpoint location, should be creek on topo map about 5 km from highway, therefore the road extend further to the NW than shown on the topo map.

This sample probably duplicates a RGS site.

Stn. 12. Silt Sample 02367 Major creek flowing ESE follows the major valley, roughly divides Slide Mtn. and Yukon Tanana terranes.

Stream boulders are mostly greenstone (due to E-W ice movement?). Some schist. Bull quartz vein boulders common, some quartz-calcite-muscovite schist boulders.

Road continues up valley, eventually cuts across creek to the SW (YTT) side of the valley. The road climbs very steeply, with many switchbacks.

Stn. 13. Outcrop of muscovite-chlorite schist at first switchback.

Chlorite-musc.-pyrite schist further up road.

Stn. 14. Rusty outcrop about 100m above second switchback. Abundant minor folds, fairly flat plunge, vertical axial planes. Chlorite-muscovite schist. Rusty cubic pits due to weathered pyrite locally.

Soil Sample 02368 Collected just below rusty outcrop.

This sample is anomalous in several metals: Au 25 ppb, Se, Mo, Ag 285ppb, Bi, Pb & Te.

Uphill lots of greenstone. No micas visible, epidote-rich. Chloritic phyllite here too. Above 4th switchback there is fine-grained limy quartzite (?); massive rock with lineation on contacts.

Stn. 15. Shaley black phyllite above approx. 11th switchback, road flattens out here

Compositional layering is approximately vertical, 140 degrees azimuth.

Rusty boulder, recently broken and marked with fresh flagging at side of road.

Stn. 16. Limestone subcrop near micrwave tower. South tower anchor is in outcrop: highly sheared, with white, angular felsic chips in green chlorite-muscovite schist. Elongate dark green porphyroblasts.

From tower head down slope to the SW, on west side of Nina claims. Rare outcrops of Chlor-musc. schist. Surprisingly little outcrop considering steep slope.
Outcrop increases about 1/3 of the way down the hill (ridge top is at 4700', road at 2000' elevation).
About half way down there are limestone layers and boulders in the dominant schist.
Some big cliffs are encountered, formed from a wide variety of chlorite-muscovite schists, thin metasandstones, and minor limestones.
Hit highway at KM 484 at 6pm. Walk back to truck about 7km east.

PROSPECTING NOTES: - JULY 10, 1999
Sunny, hot. Road traverse.

Stn. 17. Small stream with no RGS sample. Stream bed is vegetated, no visible sediment. No sample.

Stn. 18. Outcrop about 50m from highway adjacent to gravel pit. White rock, minor rusty stain, grey and green bands. White muscovite quartzite(?). Moderate NE dip to layering and cleavage. Green chlorite-muscovite schist. Locally fissile with penetrative cleavage.
Local white, fluffy precipitate on rocks (sulphate?).
Rock Sample LS18-013 Rusty schist, no sulphides noted. Au is 19 ppb, Ag 432 ppb, anomalous in other metals.

Some limy quartzites with muscovite, gritty texture.
Bull quartz veins are white and pale grey, local brown carbonate rhombs. Metamorphic vein is parallel to cleavage, and is folded.
West of gravel pit along highway is chlorite-muscovite schist, locally rusty and fissile.

Stn. 19. Small stream at km 487 has RGS data. Pan gravel – no heavy minerals.

Stn. 20 Hike up old road at km 487.6. Gravel pit turned into garbage dump. Continue uphill to powerline, no outcrop. Float cobble with quartz vein and pyrrhotite, but rounded and bulldozed. Gravel in this area is thick, appears to be glaciofluvial and therefore distal.

Stn. 21. At KM 488. Pan gravel – no heavy minerals noted.
Note: this stream has a RGS anomaly for Au (14 ppb).

Stn. 22. Outcrop at KM 489.2-489.5. Chlorite-muscovite schist. Locally gritty (or porphyroblastic?). Local limonite, jarosite, hematite, MnO2 stained. No sulphide mineralization noted.

Stn. 23. Outcrop of chlorite-muscovite schist. Slightly rusty, fissile.

Stn. 24. KM 490.4. Silt Sample 02369
Pan gravel, but no heavy minerals observed.

Stn. 25. KM 493.9. Gravel pit across from lake. Granitic dykes (local pegmatite quartz-muscovite-feldspar-tourmaline(?)). Dykes cook up schist to rusty, competent subhornfels (?). Granite locally has abundant xenoliths. Strong hornfels extends about 20 cm from dykes. Structures trend about 125 degrees azimuth, dip 78 degrees NE.
Upper bench of pit has boulder stockpile of rocks from this contact. Altered granite is mostly weathered and incompetent.

Many of these rocks have aesthetically pleasing textures: pegmatites and xenolith-rich granites. There may be potential for ornamental use.
Rock hounds can easily collect black tourmaline here, although no terminated specimens were noted.
A soil geochemical survey was conducted in this area on September 30 – see notes below.

PROSPECTING NOTES: - JULY 11, 1999
Cloudy, becoming sunny by about 10 am. Head to east along highway to map sheet 105L/1.

Stn. 26. Hike up old (overgrown with trees 6m tall) cat trail at base of limestone cliffs. Approx. 100m from highway is copper vein showing: trace of malachite and limonite on fracture in shaley limestone. May be in fault zone.
Rock Sample LS26-014. Selective float grab. Minor rusty, white quartz vein with malachite. Very sparse mineralization in the southern end of the vein. Assays show Cu –Sb –Ag mineralization with anomalous Hg, Se, As and U.
Quartz-calcite vein with trace chalcopyrite – malachite exposed in cliff is up to 1m thick. The vein lies parallel to cleavage, and is exposed for about 25m +, pinching at both ends. Trace bornite or peacock staining. Trace pyrite. Strike about 050 degrees, dip 50 degrees NW. Heading north the vein narrows to about 20 cm, and becomes more sulphide-rich. Total vein length is about 75m. Steep bulldozer trench ends at end of vein, but road continues lower on the slope.

150m further east there is another showing: malachite stains a pale brown, fine-grained calc-silicate skarn about 20 – 50 cm wide. Two skarn bands occur about 1-2 m apart, and are connected in the middle. The skarn bodies are somewhat irregular and discordant. The skarn has some white quartz that is locally dominant. This zone is about 15m long.

Stn. 27. Road levels out, incompetent dark grey phyllite outcrops in the road cut.

Stn. 28. On cliff high above highway are 6 rotten old claim posts, no tags. Old cut line is still visible. Cut line azimuth is about 130 degrees.
Can see Little Salmon Lake from ridge top.
Irregular white quartz vein in limestone outcrop. (small)

Partner reports malachite present throughout gulley going up cliff from stn. 26 – 28.

Continue along highway to the east.

Stn. 29. KM 447-448, map sheet 105K-4. Approx. 500m long outcrop stripped and washed along highway. Biotitic granite. Plagioclase megacrystic porhyry phase is common. Minor pegmatite and aplite dykes. Gneissic xenoliths and rafts are common. Two intermediate composition dykes noted. No quartz veining.
Turn around and head back west.

Stn. 30. KM 453.7. Small creek that drains a lake.
Silt Sample 02370 Pan gravel, but no heavy minerals recovered. Lots of granitic boulders, glacier from east.

Stn. 31. Gravel pit/ quarry at KM 466.5. Dark grey slatey phyllite. Incompetent, fissile outcrop is ripped by dozer for road fill.

PROSPECTING NOTES: - JULY 14, 1999

Montana Mountain. Solo trip to investigate open ground with Au-Ag showings.

Drove up to old Arctic Mine mill site – tailings were being capped by Public Works and Government Services Canada.
Road up mountain is badly washed out 5.7 km above mill site, about 1.5 km north of the Peerless adit.

Walked up road to Peerless adit, then headed west on cat trail to Snow and Flurry showings. These showings were found and investigated by Omni Resources in 1988-89 (Assessment Report 92777).
The area around the showings consists of a boulder field, with no outcrop or soil. The mineralized boulders show strong but irregular veins: quartz-pyrite-arsenopyrite-galena. The Assessment Report indicates that trenching intersected bedrock, however the trenches are flooded. Assay results up to 0.281 oz/t Au and 15.5 oz/t Ag over narrow widths are reported from the trenches.

The boulders in this area are so large that a large excavator is required to move them. Geochemical surveys would be difficult to perform due to lack of soil. For these reasons it was decided not to continue exploring this area. There is limited open ground here, between a block of valid claims and Interim Withdrawl lands. Geologically the area remains attractive.

KENO HILL AREA: SEPTEMBER 7-29, 1999

SEPTEMBER 7,8
These two days were spent prospecting an area that turned out to be claimed! The claim map erroneously had the area open, and the assistant Mining Recorder confirmed that the area was open. Later I discovered that the area was covered by valid claims.

Notes from these days are not presented, as the ground is owned by others.

PROSPECTING NOTES: - SEPTEMBER 9, 1999
Overcast. Solo prospecting on lapsed Blue Jacket claim.

Cliffs along Lightning Creek canyon, downstream from Keno City. South side of creek, along the western claim boundary.
Muscovite phyllite, musc.-chlorite phyllite. Minor thin-bedded quartzite. Gently south-dipping cleavage and compositional layering. Quartz sweat veins common. Local isoclinal (recumbent) folds. Minor folds are common.

Small ledges of muscovite-chlorite phyllite on plateau beyond the canyon cliffs.

Head East (070 degrees) along the southern boundary of the claim.
Small stream at 170m flows north.
Small stream at 410m flows north.
No outcrop along the southern claim boundary. Mostly moss, scattered spruce trees, local bog with willows.

Head North along the eastern claim boundary.
No outcrop along this line at the canyon, head downstream (west) to look for old adit on Boyle's map.
Carbonaceous phyllite at base of cliffs is black, but not graphitic enough to blacken hands. Local rusty patches with narrow quartz sweats. Folding is common, irregular. Local chlorite-muscovite phyllite.
Creek makes a sharp bend at cliff (approximately the middle of the claim), have to cross creek back and forth a few times. Would be a good place on a hot summer day. Recommend rubber boots.
Lots of steep cliffs, all appear to be more or less carbonaceous phyllite. Southwest dip to cleavage and layering. Minor folds common.

Old adit found on south side of creek, just downstream from sharp bend in creek, near old placer mining junk. About 5m above creek level. Adit measures about 1.0m wide by 1.4m high and extends about 5m into the cliff. The adit is driven on a vein fault about 40cm wide, dipping 70 degrees east and striking 010 degrees. The vein fault contains a quartz vein with accessory siderite, calcite, pyrite, galena, sphalerite and tetrahedrite (?). The vein is oxidized near surface, with limonite, hematite, jarosite and sulphates (?). The vein fault is exposed in the cliff face for approximately 25m.
A secondary splay fault joins the main vein fault at adit level. This fault strikes 040 degrees and dips 35 degrees East, is narrow and poorly mineralized. It cannot be traced for more than a few metres.
Rock Sample Blue – 015 Selective grab of mineralized quartz vein material from the adit.
Some barren bull quartz is associated with both vein faults, especially the secondary fault. The host rock for the vein fault is muscovite-rich, not carbonaceous. 6.44 oz/t Ag, 7.11% Pb.

On the north side of the creek, along strike from the vein there is no outcrop. Muscovite +/- chlorite phyllite is abundant in float here.

This claim was staked by the author as **BLUE YC01993.**
See geochem survey conducted here September 29th.

PROSPECTING NOTES: - SEPTEMBER 10, 1999
Prospecting west of the Sadie-Friendship mine in an area known as Wernecke (Railroad), Minfile 105M 017.
Straight, wide road heads downhill from the Sadie mine area to open ground (lapsed Jazz etc. claims). 1960's era trenches all over the place. Very little outcrop except in trenches. Airphoto recommended for mapping, or detailed chain and compass survey.

Trenches cut fissile grey phyllite with rusty brown staining, some cubic pits after pyrite, filled with limonite. Vertical trench walls ripped by dozer into soft bedrock.
Clearing below big bulldozer push-pile has drillhole casing, three claim posts approx. 5 years old.

"X" trench: Cleavage dips approx. 50 degrees South, 100 degrees azimuth. Deformed quartz-carbonate (siderite?) veinlets and sweat veins. Irregular minor folds common.

Greenstone knob outcrops at West end of X trench. Locally brown weathering. Old prospectors cut with narrow, irregular bull quartz veinlets cut brown greenstone. Bulldozing has partially filled in this trench. Irregular spaced cleavage dips moderately south. Some quartz-siderite-sulphide (unidentified grey metallic mineral) mineralization.
Rock Sample Railroad – 017 Selective grab sample from dump, mineralized with trace galena, black jack sphalerite, pyrite, tetrahedrite(?).
Rock Sample Railroad – 018 Selective chip from outcrop and large angular boulder in pit. Trace chalcopyrite? (no malachite noted), quartz-carbonate alteration, silicification/ hornfels. Very hard, locally bleached with coarse-grained green minerals (pyroxene?), purplish patches (skarn-like). Minor sheeted quartz veinlets.

Climb over greenstone knob – old blast pit in apparently unmineralized greenstone at northwest end.
Head northeast to trenches. Find mineralized area: Irregular quartz-sulphide-siderite vein, about 10 cm wide in trench floor. Vein occurs at contact between greenstone and phyllite. Location is a bit uncertain in this maze of trenches in the thick bush. This vein is narrow and short, and undoubtedly has been well-sampled, so I decide not to sample.

Continue wandering through more trenches, often closely spaced, with thick bush between. Many of the trenches have no bedrock exposed, and have thick alders growing from the trench floor.
Greenstone to the west commonly has MnO2 staining on joints. Some greenstone forms resistant knobs, some forms low-lying boulder fields, and some is recessive and overgrown similar to the phyllitic country rocks. Mineralization is expected to occur at contacts.

Second greenstone knob, to the east and lower on the hill than the first.
Trench along the East end of the knob has skarny veins: quartz-calcite-vesuvianite (?well-formed, striated crystals) – specimen collected. Some pyrrhotite here, adjacent to veins and in veins, trace chalcopyrite, green fluorite.
Rock Sample Railroad - 019 As described above, with trace chalcopyrite and pyrrhotite.

Trench at base of greenstone cliff has skarn veins too, but no chalcopyrite note, only pyrrhotite.
Note: fresh blue flagging here.
Alteration of greenstones seems to be restricted to calc-silicate hornels within about 1m of veins.

PROSPECTING NOTES: - SEPTEMBER 11, 1999
Clear, with ice on puddles in morning. Clouds move in around 10.30, altimeter drops about 20m.
Continue at Wernecke/ Railroad, downhill from yesterdays end point, hit Sadie-Ladue 600 level road, which starts near Klondyke-Keno. Road in good condition at this point, ok for ATV or someone else's 4x4.
Head off along overgrown cat trail that follows ridge roughly southwest.

Bulldozer trenches cut across prominent ridge approximately every 50m. Most of ridge has thick bush with no outcrop. Some phyllite with quartz-carbonate(brown) sweat veins.

Trench at 1025m elevation: brown-weathering greenstone forms two lenses separated by about 2m of grey phyllite. Contact strikes roughly NW, trench cuts NE across. Cleavage strikes approx. 270 degrees, dips 30 degrees South. Quartz-siderite veins found in outcrop and float, up to 15 cm wide, parallel to cleavage in greenstone. Accessory galena, tetrahedrite. Several narrow veins are found parallel to cleavage. The outcrop is poorly exposed, and is slumping.
Rock Sample Railroad – 020 Selective grab of vein material: quartz-siderite-calcite with pyrite-galena-sphalerite-tetrahedrite. Sulphides constitute about 1% of the average vein, but about 5% of this sample.
Best vein occurs at rusty greenstone-phyllite contact, dips 80 degrees South.
Greenstone outcrops on the ridge both above and below this trench, forms prominent knob with minor phyllite. Small ponds are visible about 300m W and NW of this knob.

Old adit (ca. 1920's) and shaft found as per Boyle's map at about 990m elevation. Two old collapsed cabins and trash.
Adit was driven through overburden (greenstone talus) with minor rusty quartz-siderite veins. Doesn't appear to have penetrated bedrock. Shaft is timbered, about 2 x 1m, with water at about 2m depth. Water is about 30 cm deep, ice may be below the water. Most of shaft dump is grey phyllite with minor greenstone.
Rock Sample Railroad - 021 Grab of quartz vein material from shaft dump. No sulphide mineralization noted.

Head NNW toward outcrop of Cretaceous felsic dykes (Tombstone age!?) shown on Boyles map. Cross bog, past ponds to low hills. Find rounded float of aplitic, muscovite porphyry dyke. Old rotten posts: No.2 80914 and others. No outcrop, very little float on this hill, head WSW along ridge trend. Rounded float of amphibole schist (possible greenstone variant?) due W of adit knob.
Old cat trail runs N-S across ridge. Float here is all rounded, mixed lithologies – glacial. One rounded boulder of muscovite porphyry found here, with phenocrysts to 7mm. Clots of pyrrhotite and pyrite are present in this boulder. Rock Sample Railroad – 022 collected from this boulder, but not assayed due to distal nature of boulder.

Continue along ridge, but no luck finding outcrop.

Head ESE back toward camp. Lowest elevation 925m, camp at 1250m. Head up over greenstone ridges. Good greenstone exposure, with recessive valleys likely phyllite/ schist.

Hit Sadie-Ladue 600 road, head SE toward Klondyke-Keno. Road is well-built, with raised rock surface. Some culverts are partially washed out. Klondyke-Keno adit is collapsed, water flows out at about 1 L/s. Lots of trash.

Note: This traverse didn't go far enough Northwest to reach the felsic dyke outcrops – see traverse September 25.

PROSPECTING NOTES: - SEPTEMBER 12, 1999
Overcast, some sun later in day, cold wind blowing down from snowy cirque. Plan to prospect up McMillan Gulch, check old Bema occurrence (Minfile 105M 073).
Drive up Lightning Creek to McNeill Gulch. Walk up cat trail to SE across creek and up hill.
Note: an upper road on Caribou Hill continues further east, might get closer to McMillan Gulch.
Float along road is angular to subround, mixed quartzite, schist, phyllite, vein quartz and greenstone. From map (Murphy & Roots) I expect quartzite, Earn group metavolcanic schist and greenstone bedrock in this area. Some greenstone float is very rusty. Burlap rag found, must be drilling ahead!
No outcrop along first ridge.

Stn. 1. Big, angular block of quartz-muscovite schist in road bed. Boulder field in flat area – angular boulders are metavolcanic schist and greenstone.
Hummocky plateau – no outcrop seen.
Cherty, rusty quartzite float near flat, boggy area, road heads ENE.
Large, angular felsic schist cut by 1cm quartz vein with rusty, cubic pits (pyrite), quartz-limonite boulders nearby (?brown weathered carbonate?).
Road swings to ESE, up hill towards Gulch.

Stn. 2. Drillsite, HQ casing, 1980's era: azimuth about 070 degrees, dip –54 degrees.
Road heads downhill to north and east, crosses with another road: one road heads west back to connect with original road, a branch to the NE dies out near a swamp, main road heads East up hill.
Large boulder of grey metavolcanic cut by numerous irregular white and rusty quartz veins, maximum 3cm wide. This boulder is about 75m in front of drillhole.
Rock Sample BE – 023 Selective grab of quartz vein material from boulder described above.
Lots of quartz vein float here, mostly less than 5cm wide. One 5mm quartz-sphalerite veinlet cuts grey metavolcanic angular float.
Note: No real outcrop in this area. Drilling must have aimed at geophysical &/or geochemical target.

Trail continues east for some distance, across angular boulder fields of grey metavolcanics with abundant quartz veins. Some veins are vuggy.

Trail becomes impassable except on foot or bulldozer. Big blocks of quartzite. Bulldozer track continues eastward along ridge on west side of McMillan Gulch. Some muscovite schist, then ridge becomes a gravelly lateral morraine.

Stn. 3. Four claim posts on hilltop near where the ridge joins the mountain: No.1 YB65886, 87 & others.
Bulldozer trench where ridge meets cliff; ripper trenches along ridge top expose irregular, rusty quartz veins in muscovite schist. On map this area is contact between quartzite and metavolcanic.
Three old claim posts, untagged.

Bulldozer trench at base of cliff follows contour for about 60m, still not bedrock. Grey phyllite with some cubic pits (after pyrite). Lots of quartz float: white, rusty, vuggy with some siderite. Some pits from sulphides (more than just pyrite??)
Rock Sample BE – 024 Selective grab sample of quartz from full length of trench.

Head down into McMillan Gulch from ridge.
Boulder field, mostly metavolcanics, some rusty with vuggy bull quartz veins. Small outcrop near pond: metavolcanic is grey and green, locally pyritic with coarse-grained cubes.

Cliffs and talus make up the West side of the gulch, only talus on the East side as it is a dip slope. Good walking up center of valley, but no outcrop.
Flat slabs of felsic schist, small outcrops.

Stn. 4. Reach lake at head of gulch. A couple of old campsites are in this valley, but no other signs of humans – surprising considering location.

Break rocks on the way back to truck. Some tan-weathering calc-schist in blocky talus, with grey quartzite.

Flat tire on way back to Keno City.

PROSPECTING NOTES: - SEPTEMBER 13, 1999
Prospect around old Ironclad (Ankeno) showings on Keno Hill.
Deep glacial overburden covers most of this area. Deep bulldozer trenches don't expose much bedrock.

Adit has collapsed, lots of trash nearby. Thick alder regrowth covers flat, disturbed areas.
Adit waste dumps form two overlapping lobes which extend out from the hillside and are easily visible from across the valley.
Eastern lobe (waste):
50% pale grey & brown quartzite with rusty fractures
40% black, carbonaceous phyllite
8% greenstone
2% white, barren quartz vein

Western lobe (rusty mineralized material):
Rock type obscured; gravel and smaller material, clay altered, rusty.
Some quartz vein material with pits from sulphides, no sulphides noted.
Rock Sample Ironclad – 016 Fairly representative grab sample of fine material from western waste dump.

Overburden in this area contains about 10 – 20% angular boulders with the following compositions:
70% grey quartzite, locally brown-weathering, thin to thick-bedded (to 40cm)
20% quartz-muscovite +/- chlorite schist
5% rounded boulders of varying composition
5% white bull quartz vein boulders
Limonite and MnO_2 staining are common on boulders.

Outcrop is present in old trench above road, about 3m of bedrock is exposed: grey-brown medium-bedded quartzite with grey schist and phyllite interbeds.

Can't locate Ironclad posts – bulldozing may have wiped them out. Thick bush.

Soil Test pit dug above the Summit Road for orientation geochemical survey:
0 – 10cm moss, lichen, grass, organic soil
10 – 30cm light brown till with roots, 10% clay, 20% silt, 10% sand, 30% angular pebbles, 20% angular cobbles, 10% angular boulders.
30 – 70cm mineral soil as above, but with no roots.
Soil Sample 02371 10 – 20 cm
Soil Sample 02372 20 – 40 cm
Soil Sample 02373 40 – 70 cm

PROSPECTING NOTES: - SEPTEMBER 22, 1999
Foggy, cloudy, windy, some sun.
Prospecting near Nord occurrence, Minfile 105M 025, north slope of Galena Hill. A strip of land along the highway is open, from about the the Wind River Trail/ Hanson Lakes turnoff to the west, south of the OK claims, west of the Carol claims, and north and west of the Cream & Jean occurrence (Minfile 105M 024).

Stn. 1. Large stripped area near road junction, probable road borrow pit, about 200 x 50m area. About 10% of the area is outcrop, muscovite +/- chlorite, biotite schist, cream, grey and greenish colour, locally rusty. Cleavage dips south.
Quartz vein with North strike present in subcrop, rusty, yellow-stained schist, trace galena, about 20cm wide. Probably on OK2 claim, but projects to open ground nearby to North.

Stn. 2. Across highway from stn. 1 on open ground. Blocky talus and cliffs of greenstone. Prospect on south side of highway heading west, seeking lithological contacts and associated mineralization, alteration, old workings etc. Talus blocks to 1.7 x 1.6 x 1.1m. Moderate fabric to greenstone, but poor cleavage. Joints parallel to fabric are space 10 to 100 cm apart. Break rock and strip moss, climb cliffs. Chloritic slickensides common. Greenstone is commonly granular, with plagioclase phenocrysts to 4mm.

Stn. 3. Dark grey metasiltstone exposed below greenstone at base of cliff, dip 20 degrees due south.

Stn. 4. Hike up beside creek at km post 102. Rounded, mixed glacial deposits, blocky greenstone to west. Head west. More greenstone, lots of moss and trees, thick bush.

Stn. 5. Boudinage structure – greenstone masses pulled apart, siltstone flows between, exposed in road cut.
See September 24th notes for continuation of prospecting in this area.

PROSPECTING NOTES: - SEPTEMBER 23, 1999
Sun and cloud, cool.
Prospecting ONE (old Aila) claim, Keno Hill. Claim is a couple of hundred metres further east than shown on claim map with respect to the Summit Road junction with Thunder Gulch road. This area is thought to be favourable, as it is along strike from both the Onek mine to the west, and the Bellekeno mine to the south, two of the best mineralized structures in the camp.

Lots of overburden with large, angular boulders of brown-weathering quartzite. Follow claim line south from No. 1 post: Talus field from 240 – 345m. Brown-weathering quartzite, grey, thick-bedded.
Weak compositional layering parallel to cleavage, may be bedding. Minor muscovite schist interbeds, rusty-weathering. Some muscovite-chlorite schist. Limonite, MnO2 staining common, rare hematite.

Rare sandy, corroded layer, may be carbonate, but doesn't fizz. Has liesegang (diffusion) bands of limonite, hematite, MnO2.

Minor white bull quartz veins.

Quartzite slabs up to 2.4 x 1.2 x 0.4m.

Break lots of rocks, rip off moss mats on southern third of claim. No mineralization found. Note that this is a dip slope, so not much outcrop expected.

Prospect road cuts across claim.

Soil Test Pit – geochemical orientation survey. Dug above Thunder Gulch road, which slopes down in both directions here.
0 – 5cm dark brown organic soil, lichen, moss, low-bush cranberries, aspen & spruce trees.
5 – 20cm orange-brown "B" horizon mineral soil with roots. 10% clay, 35% silt, 10% sand, 15% pebbles, 10% cobbles, 10% boulders. Soil Sample 02374.
20 – 40cm "C" horizon soil, with some roots. 5% clay, 5% silt, 45% sand, 20% pebbles, 15% cobbles, 10% boulders. Soil Sample 02375.
40 – 100cm As above, with no roots. Sandy alluvium/ glacial debris with lots of pebbles (mostly angular). Soil Sample 02376.

This claim was staked as **ONE YC01994.**

PROSPECTING NOTES: - SEPTEMBER 24, 1999
Sun and cloud, cool.
Continue prospecting along highway near Nord occurrence, continue where left off on September 22nd.

Stn. 6. Quartz-calcite vein with trace pyrrhotite, up to 27cm wide, irregular, about 15m long, exposed in road cut. Dips 30 degrees south. Appears to be deformed. Strip vegetation and overburden, look for mineralization.
Grey biotite phyllite exposed in cliff and road bed at sharp corner, with greenstone lenses.

Stn. 7. Quartz-calcite-siderite vein, vertical, 165 degree strike, 5 – 15cm wide. Cuts greenstone cliff, pinches and swells, irregular splays.

Stn. 8. Greenstone is relatively well foliated, with some phyllitic partings. A 4' x 4' survey target mounted on this knob faces west.

Stn. 9. Bulldozer stripping for about 150m along ridge exposes grey and grey-green phyllite, rare barren quartz-carbonate veins to 15cm wide, 180 degree strike.

Stn. 10. Greenstone cliff and talus.

Stn. 11. 200m long trench/ road exposes grey phyllite, rare barren quartz-carbonate veins. This phyllite occurs between two greenstone knobs.

Stn. 12. Greenstone knob. Can see Cream headframe. Hike in to check out geology.

Stn. 13. Cream headframe area - poor outcrop. Vein appears to follow approx. 060 azimuth trend, probably a quartzite-phyllite contact. Vein is sulphide-rich, with galena, sphalerite, and pyrite in a quartz-calcite-siderite matrix.

Stn. 14. Jean adit area. Adit adjacent to Sandy Creek on Jean claim has dump composed of apparently unmineralized greenstone and dark grey phyllite.

Poor outcrop near Sandy Creek, except for greenstone knob to the east of the creek on the south side of the road.

Stn. 15. Black spruce forest, mossy ground, no outcrop north of Jean claim and highway.

Stn. 16. Hike up Star Creek (?near Keno City 10km sign). No outcrop found.
Greenstone knob on East side of creek, may be on Rainbow claim. Prospect around, nothing great.

Stn. 17. Small, amateur shaft at roadside outcrop, south side of road. Waste dumped on north side of road. Dump has muscovite phyllite, calcite vein material, slightly rusty. No economic minerals noted, no vein seen in outcrop.

PROSPECTING NOTES: - SEPTEMBER 25, 1999
Cool, grey day. Long hike into area of felsic Tombstone dykes (unit "KTg" on Murphy & Roots map) located low on the north side of Keno Hill, the area not reached by the traverse on September 11. Drive to Paddy area, Minfile 105M 020, then head ENE following old cat trails. Start at old high grade barrel dump.
Walk downhill and across creek, past Paddy adit, head uphill along overgrown trail. Trail is not passable by vehicle due to bridge washout, dense alders on roadbed. Growth is about 20 years old.
Swampy "blade-up" cat trail leaves bulldozed road, heading ENE still.
Walk along ridge to North, more gravel pits. This is the target area. The airphoto was indispensible in locating this area, as it is so flat, and the trails so overgrown.
No signs of recent activity, except for a few bits of flagging tape. Age of bulldozing is uncertain, as this area isn't a minfile location.

Stn. 1. Junction of roads and trenches. Shallow trenches (<1m deep), black siltstone subcrop here.
Head along ridge to north, then east across swamp to bulldozed area.

Stn. 2. Stripped area about 20 x 20m, with outcrop and subcrop of KTg felsic dyke, and siltstone. KTg is cream-brown with yellow, orange and brown weathered surfaces. A muscovite +/- quartz porphyry. Muscovite appears to replace plagioclase (?). An odd rock. The phenocrysts are aligned. The rock has a weak fracture cleavage. This unit is commonly quite soft and incompetent, but does form some large, hard blocks. The rock can be scratched with a hammer. White bull quartz veins are common. One narrow pyrite veinlet was observed.

Rock Sample KTG – 025 Rusty dyke grab sample. Jarosite, limonite and hematite, MnO2 staining, some quartz vein. 292 ppb Au!
Continue NE along dyke trend, find bulldozed knob of KTg.
Next two trenches to NE are boggy, have no outcrop.
Next trench:
Rock Sample KTG – 026 White, rusty quartz vein associated with dyke. Trench has subcrop of grey phyllite, cut by dyke and quartz veins. Trench is up to 2m deep, and is west of sample 025. This trench has almost no outcrop except for some dyke with an irregular vuggy quartz-calcite-(pyrite) vein. Local calcareous coatings on rock surfaces here. Soil is grey-brown silty till. Muscovite phenocrysts are up to 2.4 x 1.6 cm.
Trenches to the NW have felsic dykes too.
Some trenches are at least 2m deep, and closely spaced (10 – 20m). Trenches to the NW are overgrown with dense alders, while to the SE there is little regrowth (is there more than one generation of trenching?), partly due to thicker overburden to the NW.

Soil Sample 02377 C horizon (40cm deep), silty till overlying felsic dyke. Light orange-brown. No competitors flagging seen in the NW area trenches.

Head back to stn. 1. then head SE across swamp to Greenstone ridge.

Stn. 3. Old hand trenches at the NW end of the greenstone ridge. Rusty greenstone with quartz veins, 3 or 4 test pits are old, probably ca. 1920's.
Rock Sample KTG – 027 Selective grab sample of quartz vein and rusty greenstone. Pyrite is about 1% of the rusty greenstone. Quartz veins are not noticeably mineralized.

Head ENE along greenstone ridge top, return along base of outcrops.
Greenstone ridge cliff face shows irregular, dipping shears; lenses of greenstone have schistose partings. Barren, irregular quartz-calcite veins are common. Some slatey phyllite is present along this ridge.

Return to truck. Visit Paddy mine on the way. Small open cut above the adit shows contact between greenstone lens and phyllite: the site of mineralization. Vein at this contact is approximately vertical, strikes about N-S.

PROSPECTING NOTES: - SEPTEMBER 26, 1999
Wet snow falling. Prospect on the east side of Christal Creek in the Erickson Gulch area. There are 4 lots with abandoned mineral rights here: Lots 564,565,566, & 570. The area begins from the Silver Trail highway and heads north.

Decide to run a soil sample line at 354 degrees azimuth, as the area is quite flat. Plan to sample every 200m.

Powerline runs NW at 140m.
200m – too swampy, no sample. Black spruce and Labrador tea.
275m – small creek, very boggy runs W.
400m – dig 60cm pit, no mineral soil, all loonshit.
470m – small creek flows W along 1.5m deep depression in swamp.
600m – dig 60 cm, no mineral soil.
690m – small creek flows W.
Forest thickens, less boggy, approaching Erickson Gulch Creek.
745m – Soil Sample 02386 from 50 –60 cm.

Soil Profile: 0 – 25cm moss, roots, organic soil.
25 – 60cm reddish brown, silty till, rounded pebbles.

795m – Creek. No outcrop here.

835m – flat area above gulch on the north side.
Soil Sample 02387 from 50 – 60cm.
Soil Profile: 0 – 10cm organic material.
10 – 60cm red-brown silty soil, few pebbles.

1000m – Soil Sample 02388 from 50 – 60cm.
Soil Profile: 0 – 20cm organic.
20 – 40cm cobble-rich till, rounded to angular, mixed lithology.
40 – 60cm clay-rich brown till.

1200m – 10cm of organic material overlying washed, rounded boulders. No sample.

Continue north about 100m, then zigzag back and forth to cover Lots. Old moss-covered shallow test pit is dug in gravel located on north side of creek - no potential. Scour creek gulley up and down, no outcrop found. Lots of washed sand and gravel. This material has little potential for useful geochemistry, todays samples maybe shouldn't even be analyzed.

Todays traverse was probably a waste of time. No wonder the ground is open. I was hoping for at least some outcrop in the creek gulley.

PROSPECTING NOTES: - SEPTEMBER 27, 1999

Sunny, frosty. Drive along Hanson Lake road to hill at east end of lake to "Hanson Hill", a low, round hill that is northwest of Gambler lake. The hill is at the boundary between 105M – 14 and 106D – 3. Head due east from road, straight up hill. Truck parked at 700m elevation.
Old, overgrown test pit at 275m, 1 x 1 x 0.5m deep.
Old blade-up cat trail runs SE at 300m. Permafrost has melted beneath trail to form a depression.
Thick moss, black spruce in this area.

Gentle slope becomes steeper at 430m, 795m elevation. Forest changes to birch-spruce-willow-alder. Spruce trees to 50cm diameter. Slope is up to 35 degrees. No outcrop or boulders.

Small outcrop at 530m, 880m elevation. Graphitic phyllite with rusty fractures, laminated, with slatey cleavage. Dip moderately to south, but outcrop appears to have slumped.
Similar outcrop at 540m, strike 135 degrees, dip 30 degrees SW.

Reach 900m elevation at 575m, slope flattens out. Trees smaller again.
Dig soil test pit: 0 – 20cm organic soil, moss, roots.
20 – 40cm grey-brown silty till, rounded pebbles.
40 – 50cm grey-brown soil with angular phyllite chips, C horizon.
Soil Sample 02378 from 40 – 50cm.

Head south, then east to circle the hill at about 900m elevation, collect C horizon soil every 500m.
Phyllite outcrop at 40m.

Soil Sample 02379 Grey-brown silty till with phyllite chips, 40cm deep.

Clouds move in, altimeter is a bit wonky.
Notice that hip chain has been slipping a bit since I changed thread about 400m back. So where am I really?

Soil Sample 02380 Dark brown silt/ clay soil, 35cm deep.

Soil Sample 02381 Grey-brown silty soil, 35cm deep.

Occasional phyllite outcrop, nothing of interest found. Variable bush, not too bad.

Soil Sample 02382 Grey-brown silty soil, 40cm deep. Greenstone chips and cobbles (angular).

Soil Sample 02383 Grey-brown silty soil with angular pebbles, 40cm deep.

Soil Sample 02384 Dark brown silty soil, 30cm deep.

Soil Sample 02385 Dark brown silty soil, 35cm deep.

PROSPECTING NOTES: - SEPTEMBER 28, 1999
Grey, flurries, 1 – 3cm snow on ground.
Soil geochemical survey over low hill ("Duncan Hill") SE of Halfway Lakes, starting from gravel pit at km 5, Duncan Creek road. Head at 020 degrees azimuth, collect soil sample every 250m. This is an old (10 years?) burn area, so visibility is good, but slow going over fallen trees sometimes. Surficial geology map shows thin till overlying bedrock for this hill.

Burnt logs aren't too sooty, but are slippery. Regrowth is up to 2m high.
No sample at 0m, as it is boggy, not on hillside yet.

250m - Soil Sample 028748 from 25 – 35cm. Orange-brown silty till with rounded pebbles.

500m - Soil Sample 028749 from 25 – 35cm. Orange-brown silty till, fewer pebbles than above.

750m - Soil Sample 028750 from 25 35cm. Orange-brown silty till, rare pebbles.

Old road (fire break?) at 785m. Two large glacial erratics of rounded diorite.

818m - outcrop of psammite (gritty metaquartzite) with phyllitic partings, gentle southerly dip. Prospect here a bit.

1000m - Soil Sample 028751 from 25 – 35cm. Yellow-grey and grey till, abundant pebble-sized angular phyllite, clayey.

1055m – angular boulders of schistose psammite.
1080m – terrain flattens out.
1137m – small stream with puddles but no flow, some silt.

1250m - Soil Sample 028752 from 25 – 35cm. Yellow-brown silty till, few pebbles.

Change azimuth to 110 degrees to head back toward road.

250m - Soil Sample 028753 from 25 – 35cm. Yellow-brown silty till, 5% rounded pebbles.

500m - Soil Sample 028754 from 20 – 30cm. Yellow-brown silty till with rounded cobbles and pebbles.

650m – subcrop of highly strained psammite
750m – outcrop of highly strained psammite
750m - Soil Sample 028755 from 25 – 35cm. Yellow-brown silty till with subround pebbles.

1000m - Soil Sample 028756 from 25 – 35cm. Yellow-brown silty till with 20% angular pebbles and cobbles.
Getting late, so head down hill to road, back to truck.

PROSPECTING NOTES: - SEPTEMBER 29, 1999
Grey, flurries, snow on ground.
Geochemical survey of BLUE claim.
From edge of canyon on western claim boundary head 100m at 160 degrees. Start geochem line at 070 degrees azimuth, sample every 50m.

0m - Soil Sample 028791 from 30 – 40cm. Grey clay with angular phyllite cobbles.

50m - Soil Sample 028792 from 25 – 40cm. Stiff grey clay with minor yellow specks.

Edge of canyon reached at 60m, change bearing to 100 degrees azimuth to stay above cliffs.

100m - Soil Sample 028793 from 30 – 45cm. Grey-brown clay with round pebbles and cobbles.

150m - Soil Sample 028794 from 30 - 40cm. Grey-brown clay with round pebbles.

185m – small creek flows north.

200m – No Sample 40cm of organics, then permafrost.
Change bearing back to 070 degrees.

250m - Soil Sample 028795 from 25 – 35cm. Saturated grey-brown clay.

300m - Soil Sample 028796 from 30 – 40cm. Grey-brown clay.

350m - Soil Sample 028797 from 15 – 25cm. Yellow-grey clay-silt-pebble till.

Creeks at 335m and 355m flow north, join together just downstream from sample.

400m - Soil Sample 028798 from 15 – 40cm. Yellow-brown fine sand.

450m - Soil Sample 028799 from 5 – 30cm. Yellow-brown silty till with subround pebbles and cobbles.

PROSPECTING NOTES: - SEPTEMBER 30, 1999
Grey, flurries, snow on ground, sun trying to come out.
Little Salmon Lake area. High level Cretaceous granite with pegmatitic apophyses, tourmaline.
Geochemical survey across stock, from contact to contact.
Begin at gravel pit near km 494. See prospecting notes from July 10, stn. 25.
Follow powerlines from east to west, soil sample every 250m to 500m.

Soil Profile, east end of gravel pit:
0 – 10cm organic material.
10 – 20cm ash layer.
30 – 70cm sandy orange-brown till, pebble-cobble-boulder-rich.
70 – 120cm light brown sand-boulder till, mixed lithology rounded boulders.
Soil Sample 28757 from 110 – 120cm. Light grey-brown sandy till.

0m - West side of gravel pit, 160m west of sample 28757.
Soil Sample 28758 from 20 – 30cm. Light orange-brown silty till, 25% pebbles.

250m - Soil Sample 28759 from 20 – 45cm. Light orange-brown silty till, few pebbles. Local rounded granite outcrops begin.

500m - Soil Sample 28760 from 10 – 20cm. Orange and yellow-brown silty till.

750m - Soil Sample 28761 from 5 – 20cm. Yellow-brown and orange-brown silt, near granite outcrop.

940m – dry gulch.

1000m - Soil Sample 28762 from 25 – 35cm. Light yellow-brown silt.

1500m - Soil Sample 28763 from 20 – 30cm. Orange-brown silty till with 25% rounded cobbles.

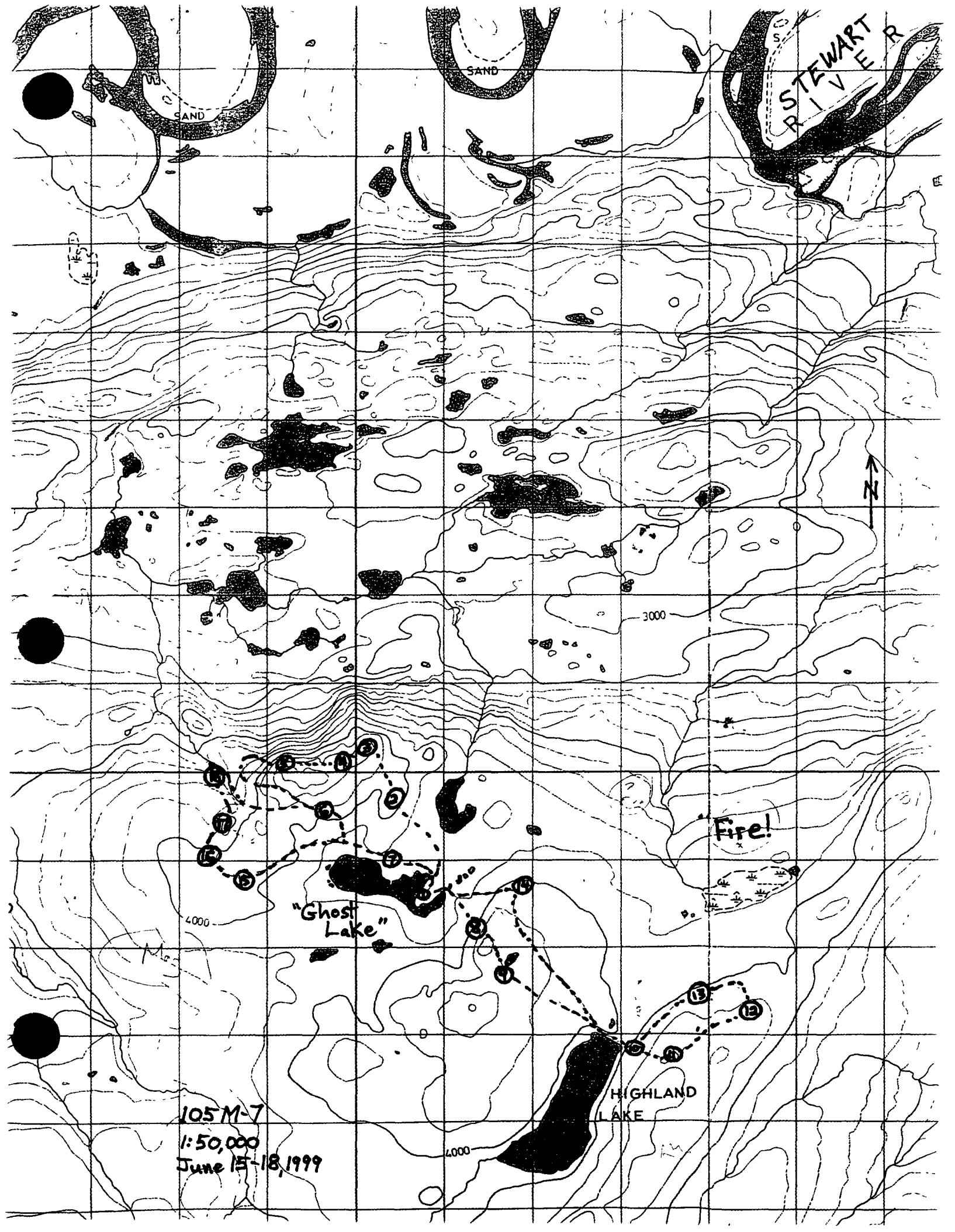
1630m – powerline changes azimuth from 060 to 095 degrees.

2000m - Soil Sample 28764 from 25 – 35cm. Orange-brown silt.

2400m – 2500m Large granite outcrop.
2500m – valley filled with slash.

2550m - Soil Sample 28765 from 21 – 26cm. Orange till.
Hornfelsed phyllite outcrop nearby, gulley at 2500m is contact between granite and phyllite. Hornfels is rusty-weathering (limonite and hematite), cleavage is weak. Millimeter scale compositional layering is visible.

2700m - Soil Sample 28766 from 30 – 40cm. Yellow-brown silt.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SAND
STEWART RIVER
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3000
4000
4000
"Ghost Lake"
Fire!
HIGHLAND LAKE
105 M-7
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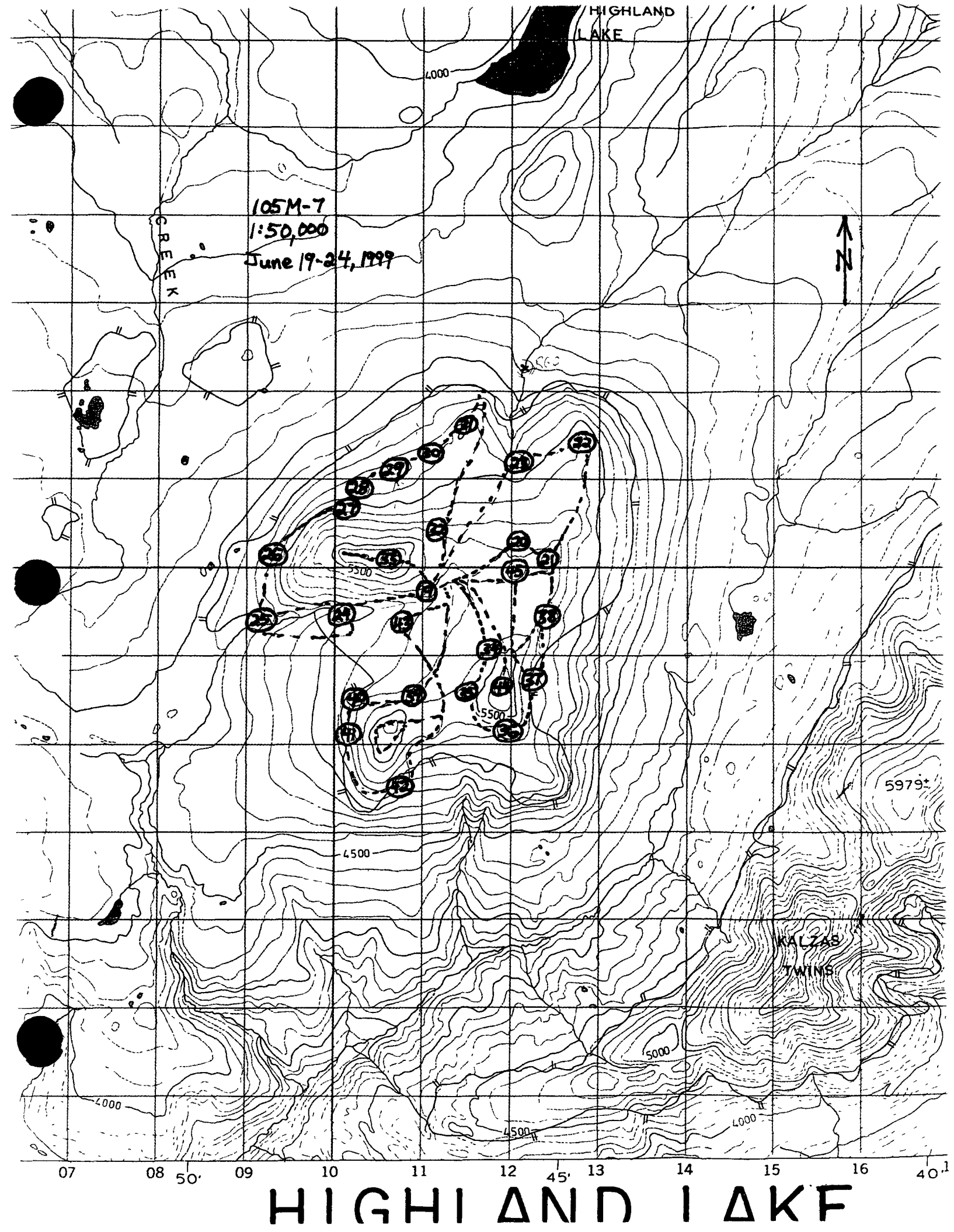
June 15-18, 1999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LAKE
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June 19-24, 1999
CREEK
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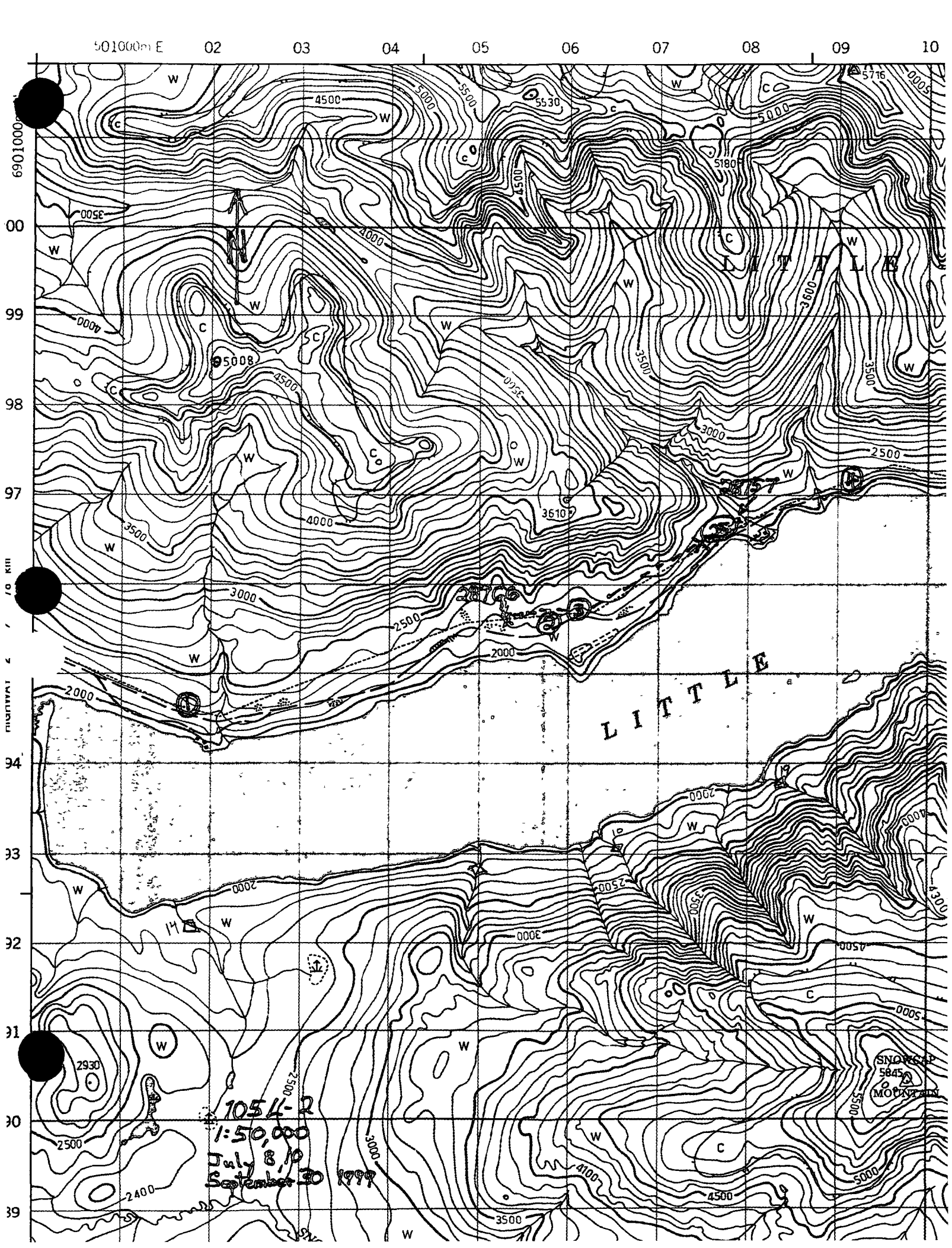
HIGHLAND LAKE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LITTLE
LITTLE
SNOWCAP
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MOUNTAIN
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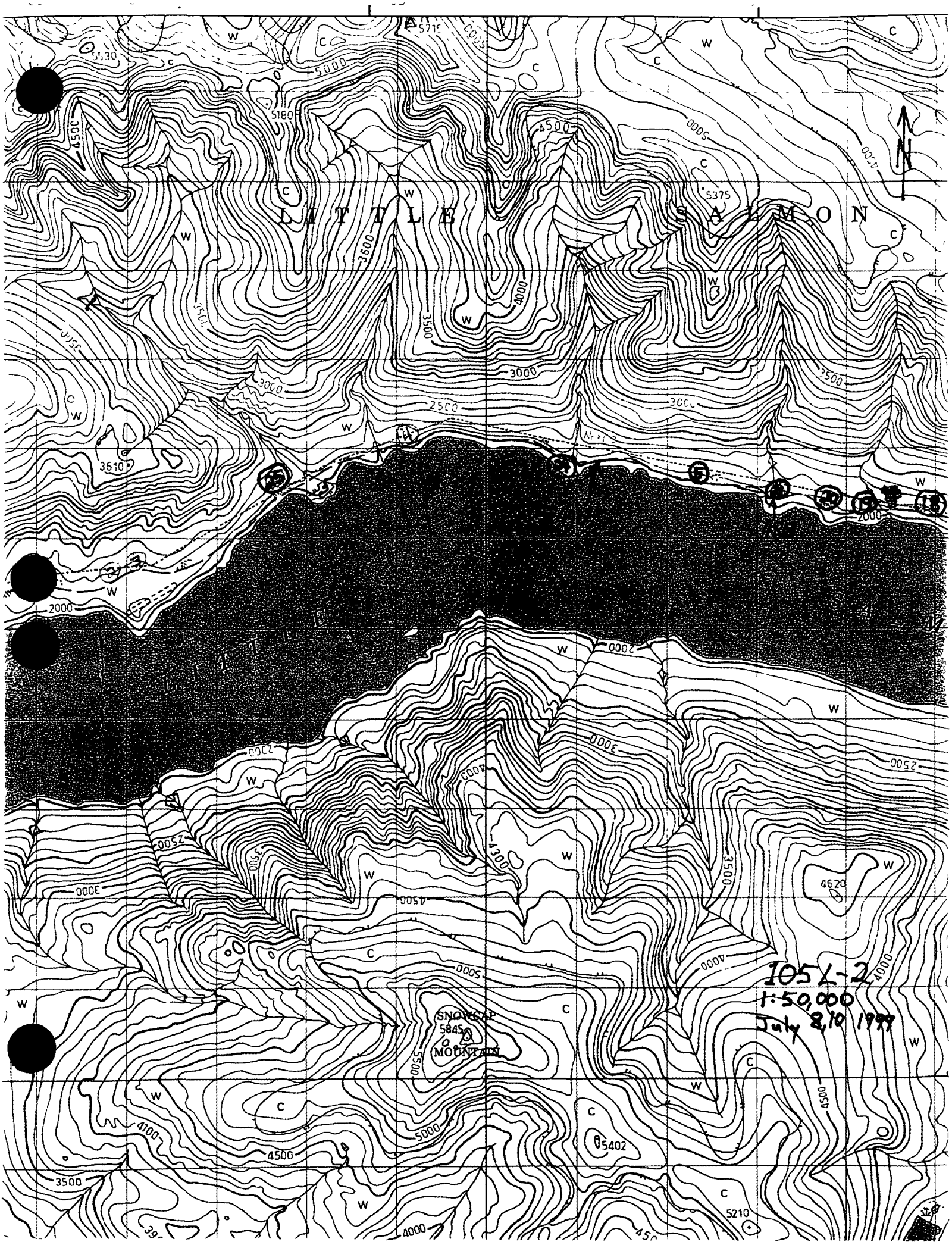
July 8,10
September 30 1999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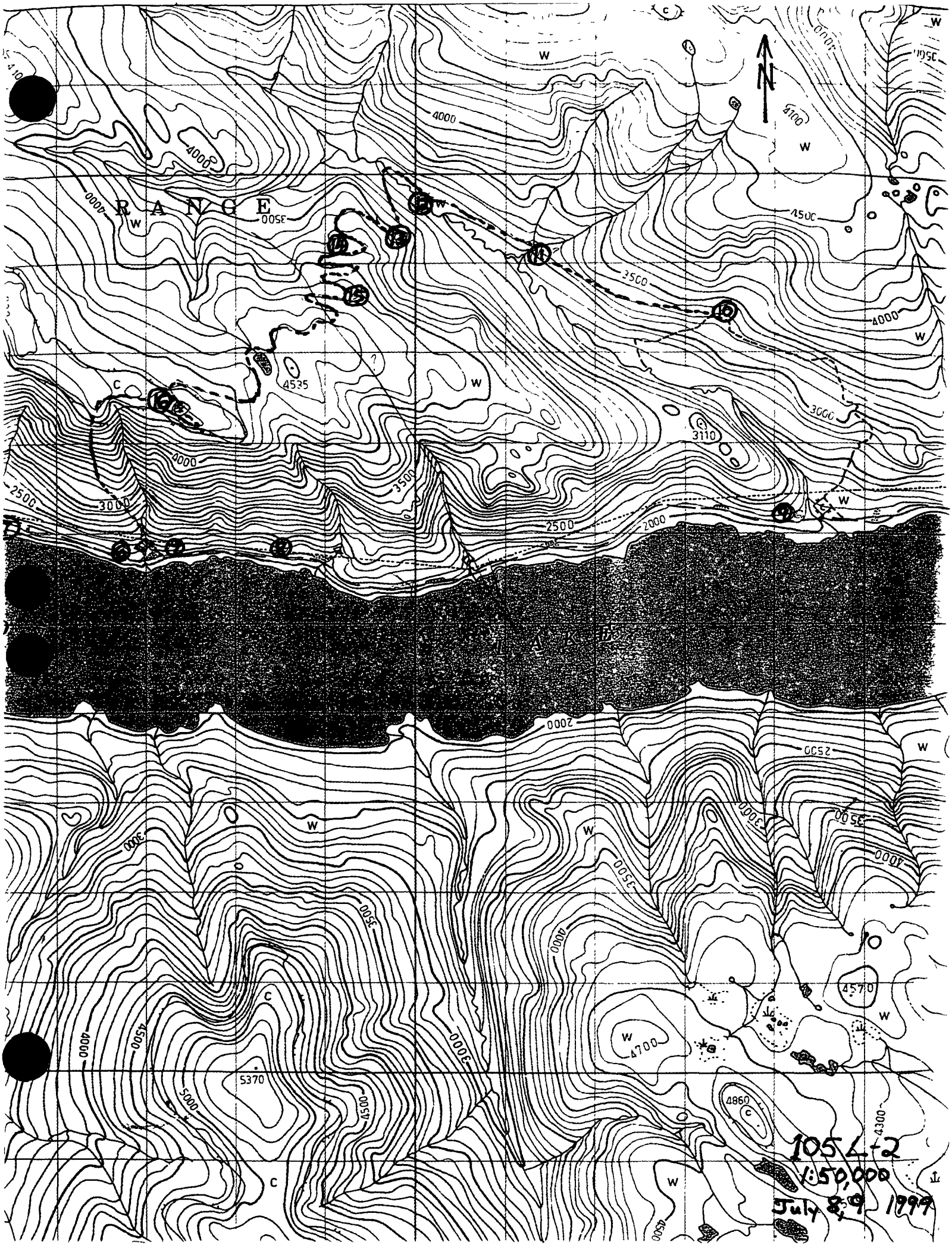
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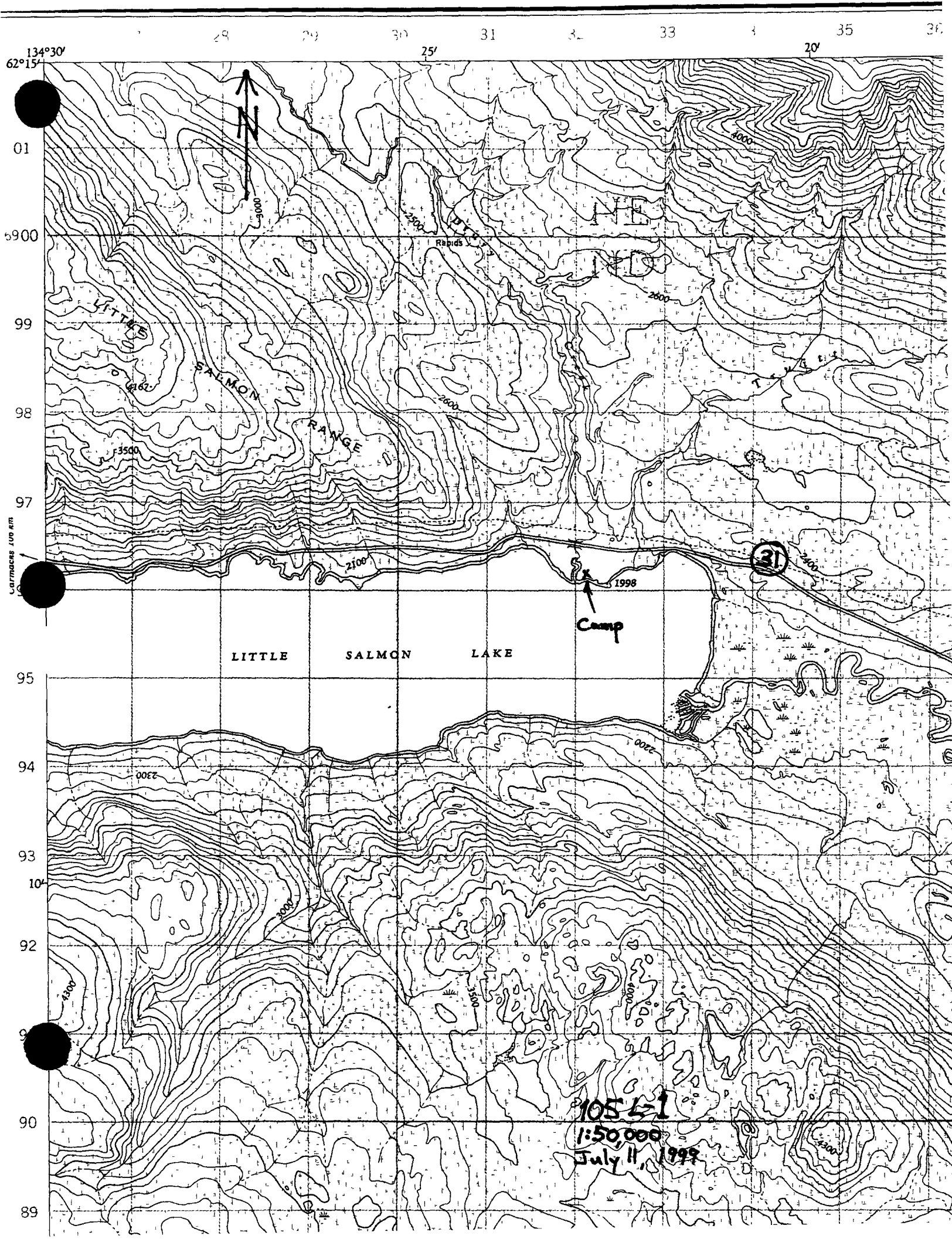
July 8, 9 1999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62°15'
25'
20'
N
LITTLE SALMON RANGE
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2500
2600
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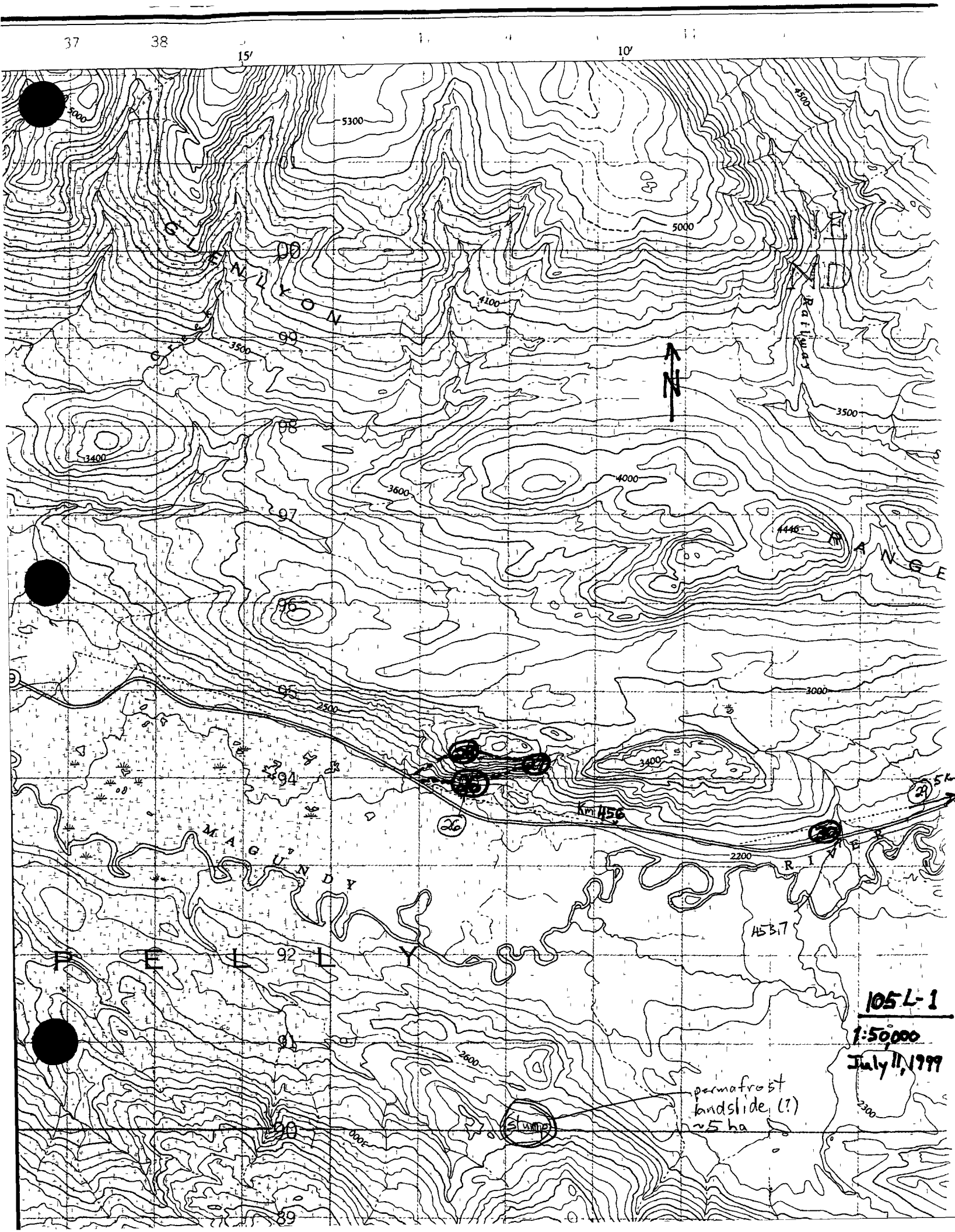
3000
Rapids
2100
1998
Camp
31
2400
LITTLE SALMON LAKE
2300
4300
105 L-1
1:50,000
July 11, 1999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38
15'
10'
GLENLYON
PELLY
MACMUNDY
RANGE
RIVER
Railway
Km 456
5300
5000
4500
4100
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4446
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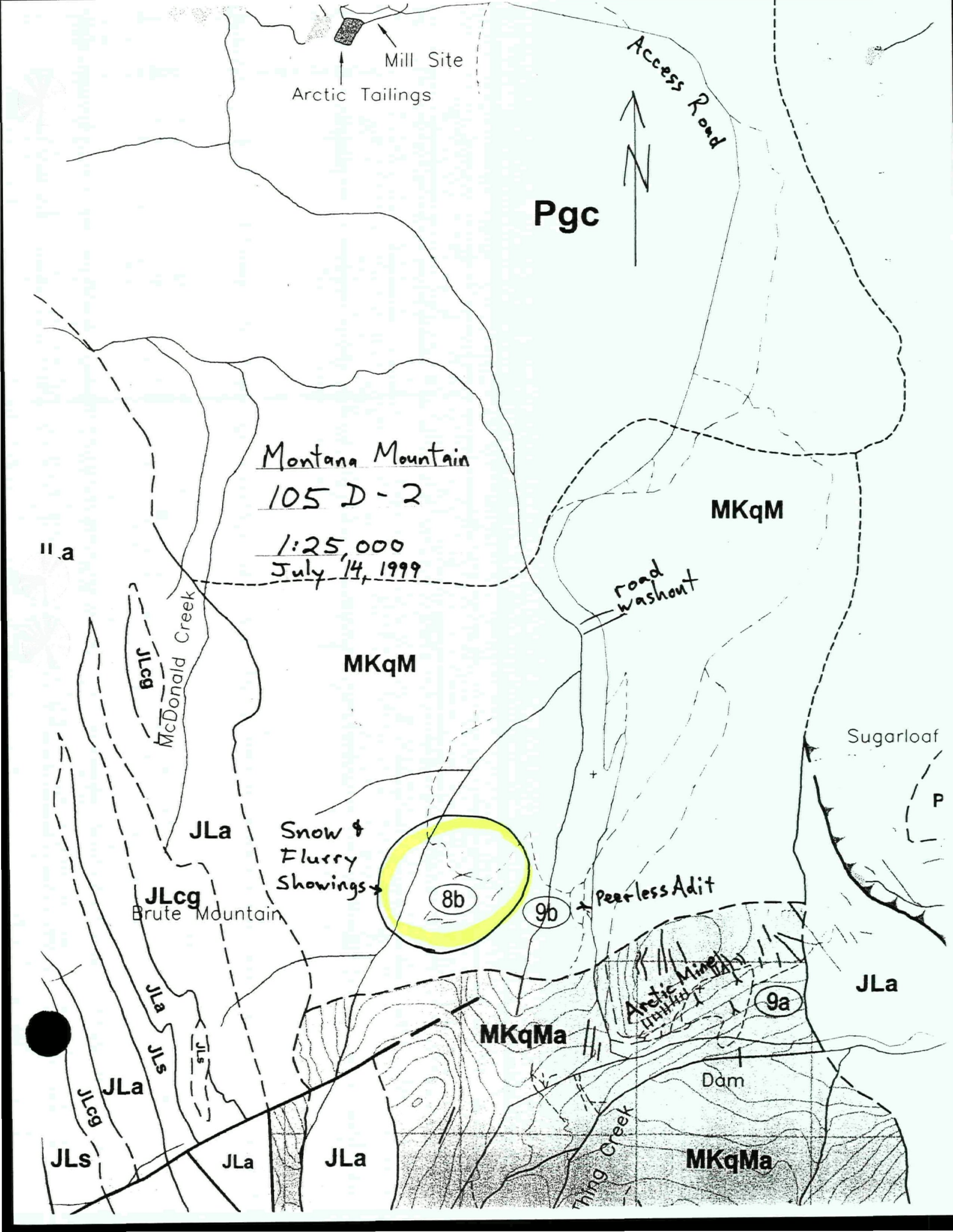
permafrost landslide (?) ~5 ha
stump
105 L-1
1:50,000
July 11, 1999


Mill Site
Arctic Tailings
Access Road
Pgc
Montana Mountain
105 D - 2
1:25,000
July 14, 1999
MKqM
road washout
MKqM
McDonald Creek
JLcg
JLa
Snow & Flurry Showings
8b
9b
Pearless Adit
JLcg
Brute Mountain
Sugarloaf
P
JLa
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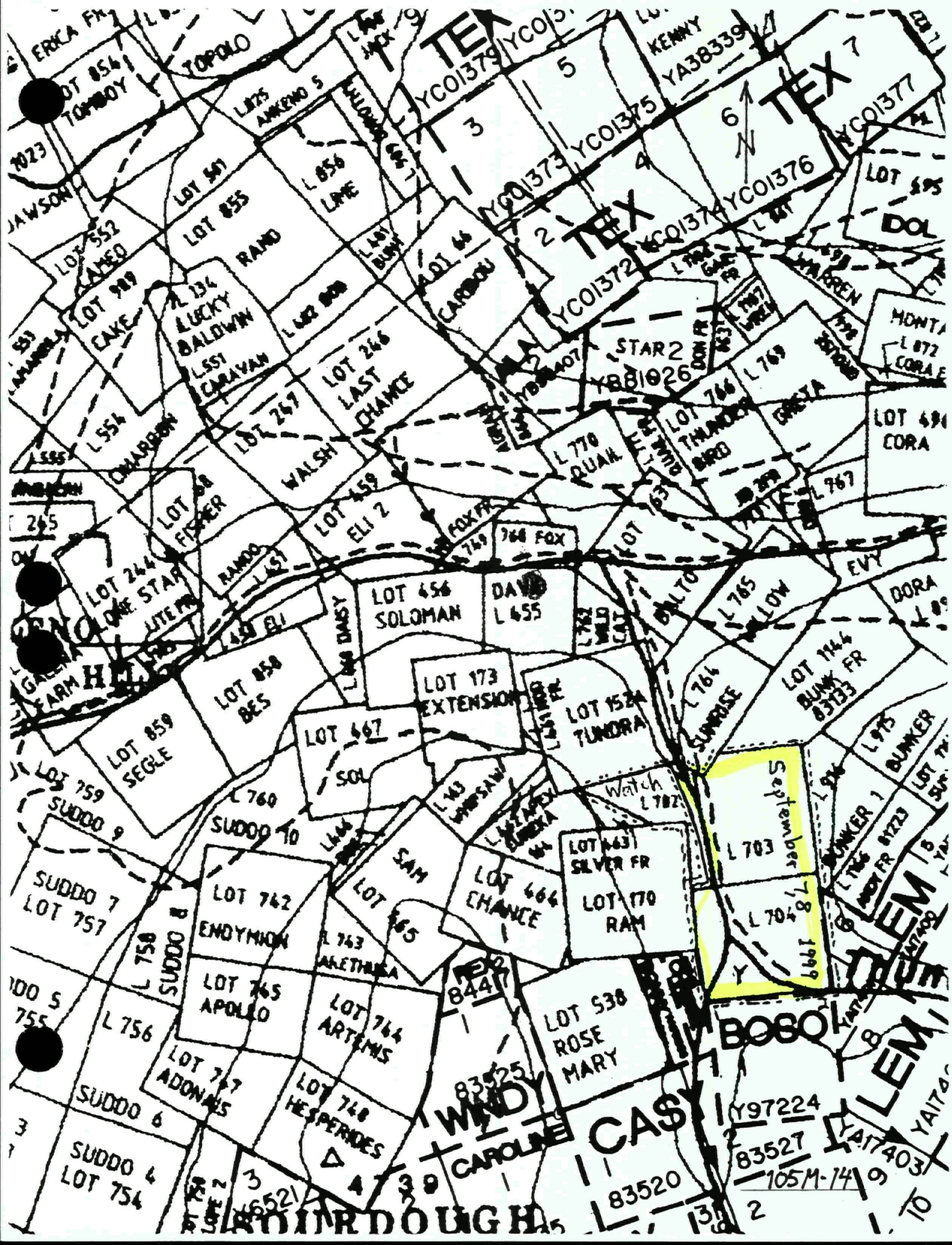
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TOPOLO
LOT 854 TOMBOY
LOT 855 RAND
LOT 856 LIME
LOT 857
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LOT 789 CAKE
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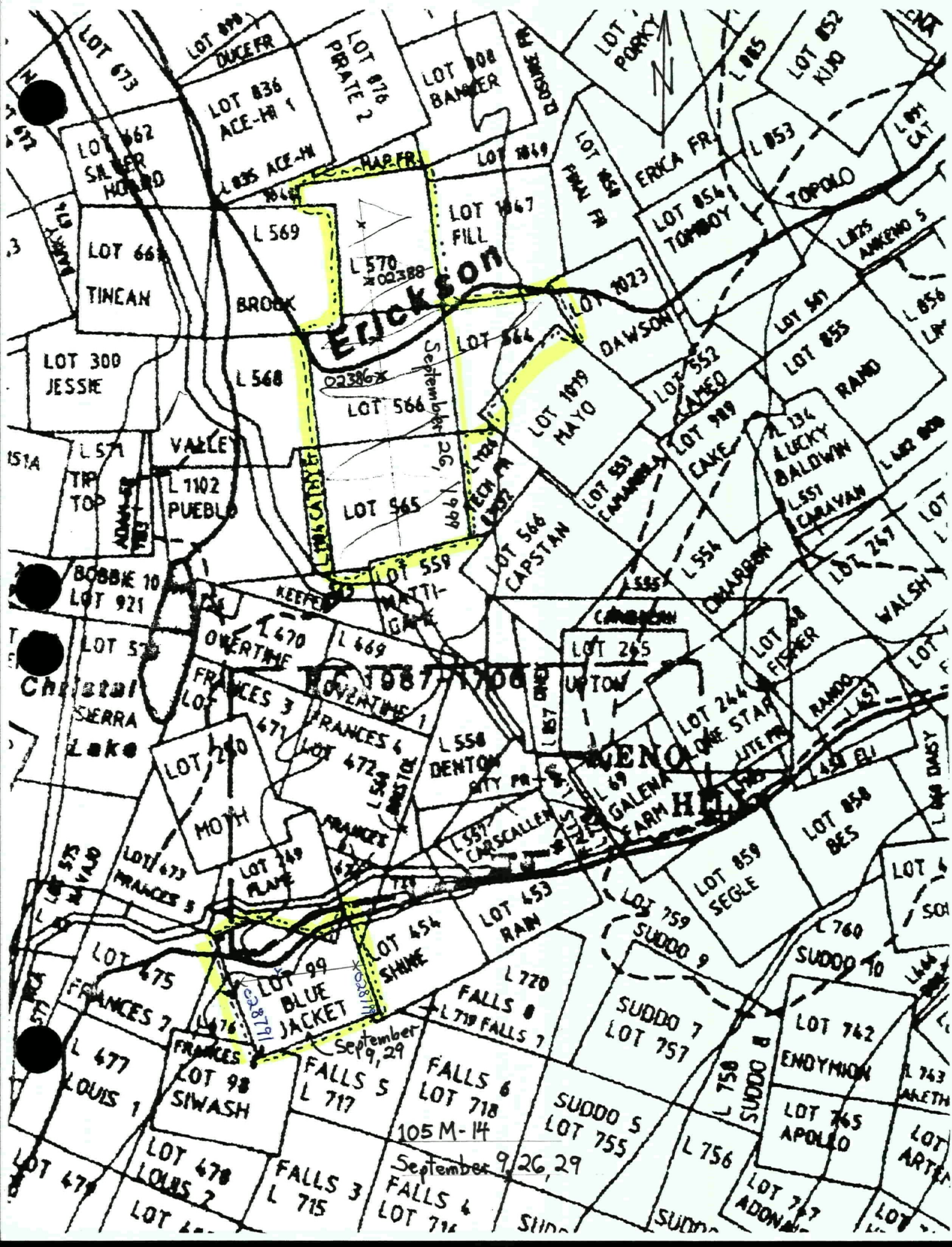
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L 569
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LOT 1023
LOT 564
LOT 566
*02386
LOT 300 JESSIE
L 568
VALLEY
L 571 TIP TOP
L 1102 PUEBLO
LOT 565
LOT 559 MATTI-GAN
LOT 566 CAPSTAN
LOT 1019 MAYO
LOT 552 CAMEO
LOT 553 CAMARILLA
LOT 909 CAKE
LOT 855 RAND
L 134 LUCKY BALDWIN
L551 CARAVAN
L 554
L 555
LOT 247 WALSH
LOT 265 UPTON
LOT 244 LONE STAR
LOT 858 BES
LOT 859 SEGLE
LOT 759
L 760
L 769 GALENA FARM
L 557 CARSCALLEN
L 558 DENTON
L 669
L 470 OVERTIME
OVERTIME 1
FRANCES 3
FRANCES 4
LOT 472
LOT 471
LOT 260 MOTH
LOT 469 PLANE
LOT 473 FRANCES 5
LOT 475 FRANCES 7
L 476
L 477 LOUIS 1
LOT 478 LOUIS 2
LOT 98 SIWASH
LOT 99 BLUE JACKET
LOT 454 SHINE
LOT 453 RAIN
L 720 FALLS 8
L 719 FALLS 7
FALLS 5 L 717
FALLS 6 LOT 718
FALLS 3 L 715
FALLS 4 LOT 714
SUDDO 7 LOT 757
SUDDO 5 LOT 755
SUDDO 9
SUDDO 10
SUDDO 8
L 756
LOT 742 ENDYMION
LOT 745 APOLLO
LOT 747 ADONIS
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105 M-14
September 9, 26, 29
September 9, 29
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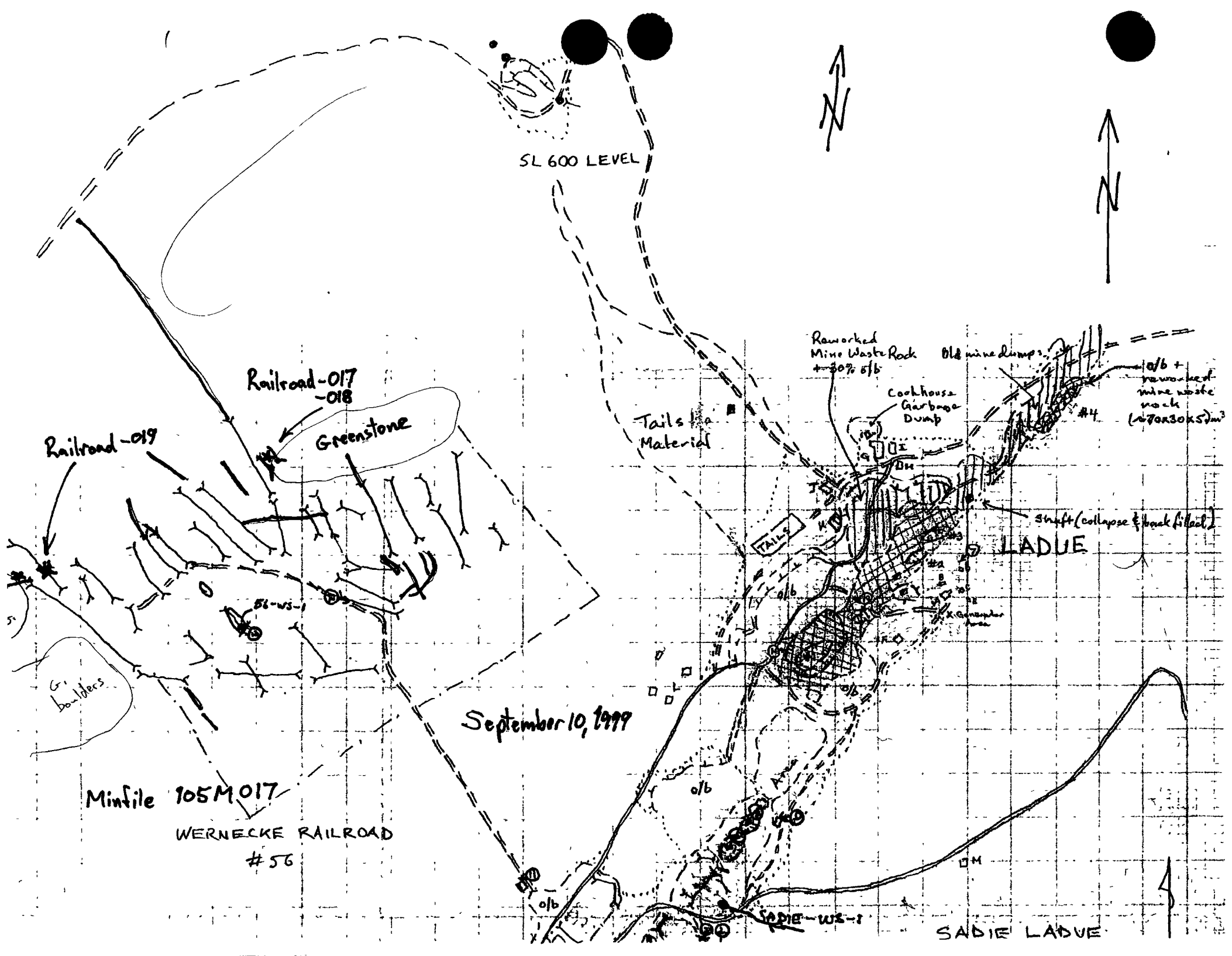
11879
BOBBIE 10 LOT 921
Chetaal
SIERRA Lake


SL 600 LEVEL
Railroad-017
-018
Railroad-019
Greenstone
Tails ta
Material
Rawarked
Mine Waste Rock
+30% o/b
Old mine dumps
Cookhouse
Garbage
Dump
o/b +
rawarked
mine waste
rock
(±70x30x5)m³
#4
shaft (collapse & back filled)
LADUE
TAILS
SS-WS-1
G. boulders
September 10, 1999
Minfile 105M 017
WERNECKE RAILROAD
#56
SADIE-WS-1
SADIE LADUE

See reverse for contacting your nearest Norwest location and proper sampling protocol

Billing Address	Report To: ☐	Copy of Report To:	Copy of invoice: ☐
Company: PWGSC Environmental Services		Company	Mail invoice to this address for approval ☐
Address: 641 - 800 Burrard St Vancouver, B C V6Z 2V8	QA/QC Report ☐	Address	
Attention: Tim Sackmann	Report Result:	Attention:	
Phone: 775-6828	Fax ☐	Phone:	Fax ☐
Fax: 775-6650	Mail ☐	Fax:	Mail ☐
Cell.	Courier ☐	Cell.	Courier ☐
Email. tim.sackmann@pwgsc gc.ca	Email ☐	Email:	Email ☐

Information to be included on Report and Invoice

Project ID: Project # 846646
Project Name: Keno Valley mine sites
Project Location
Legal Location:
PO#:
Proj Acct Code:
Agreement ID

RUSH ~~Please contact the laboratory to confirm rush dates and times before submitting samples.~~

Upon filling out this section, client accepts that surcharges will be attached to this analysis

Required on all analyses **or** as indicated ☐ **or** ☐

Date required._____
Signature:_____
Norwest Authorization:_____

Sample Custody (Please Print)

Sampled by: Date
Company Signature
Relinquished by:
Company Date
Waybill number
Received by:
Company Date
Processed by
Norwest Labs Date

Special Instructions/Comments

	Sample Identification	Location	Depth	Date/Time Sampled	Matrix	Sampling Method	Number of Containers ↓	Total metals	Routine water parameters	Water nutrients	PAH	Acid Base Accounting (waste rock)							
								Enter tests above (check off relevant samples below)											
1			-																
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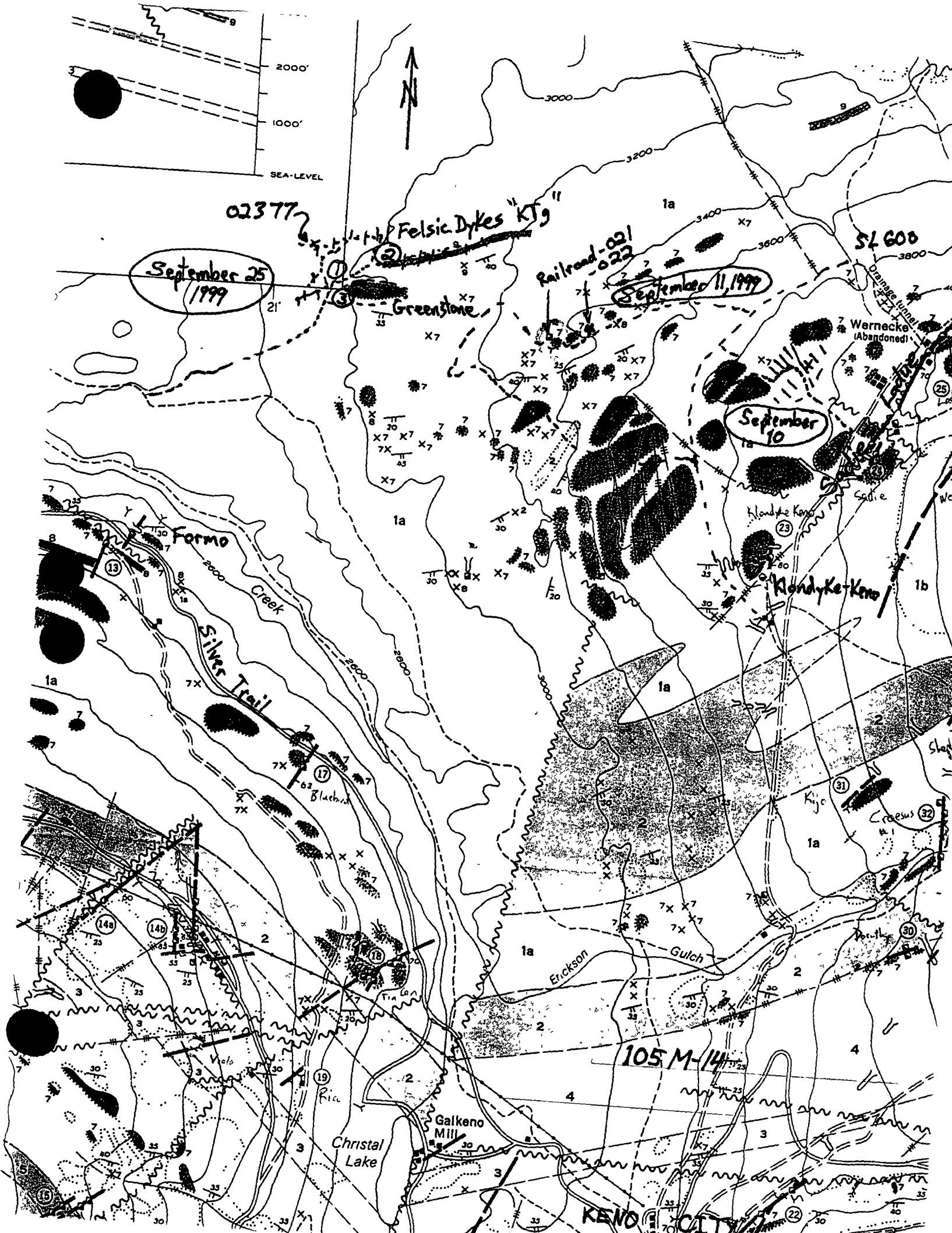
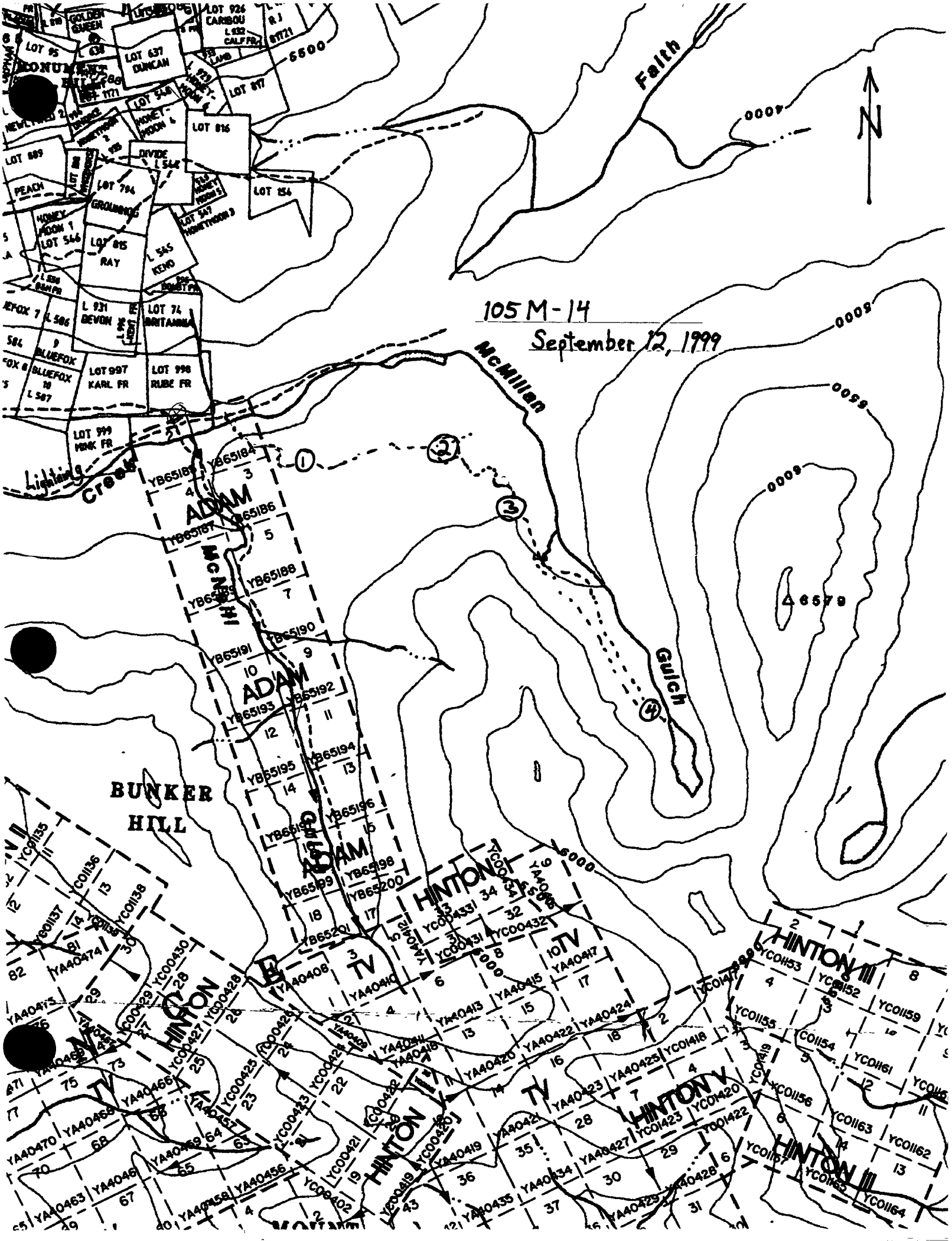
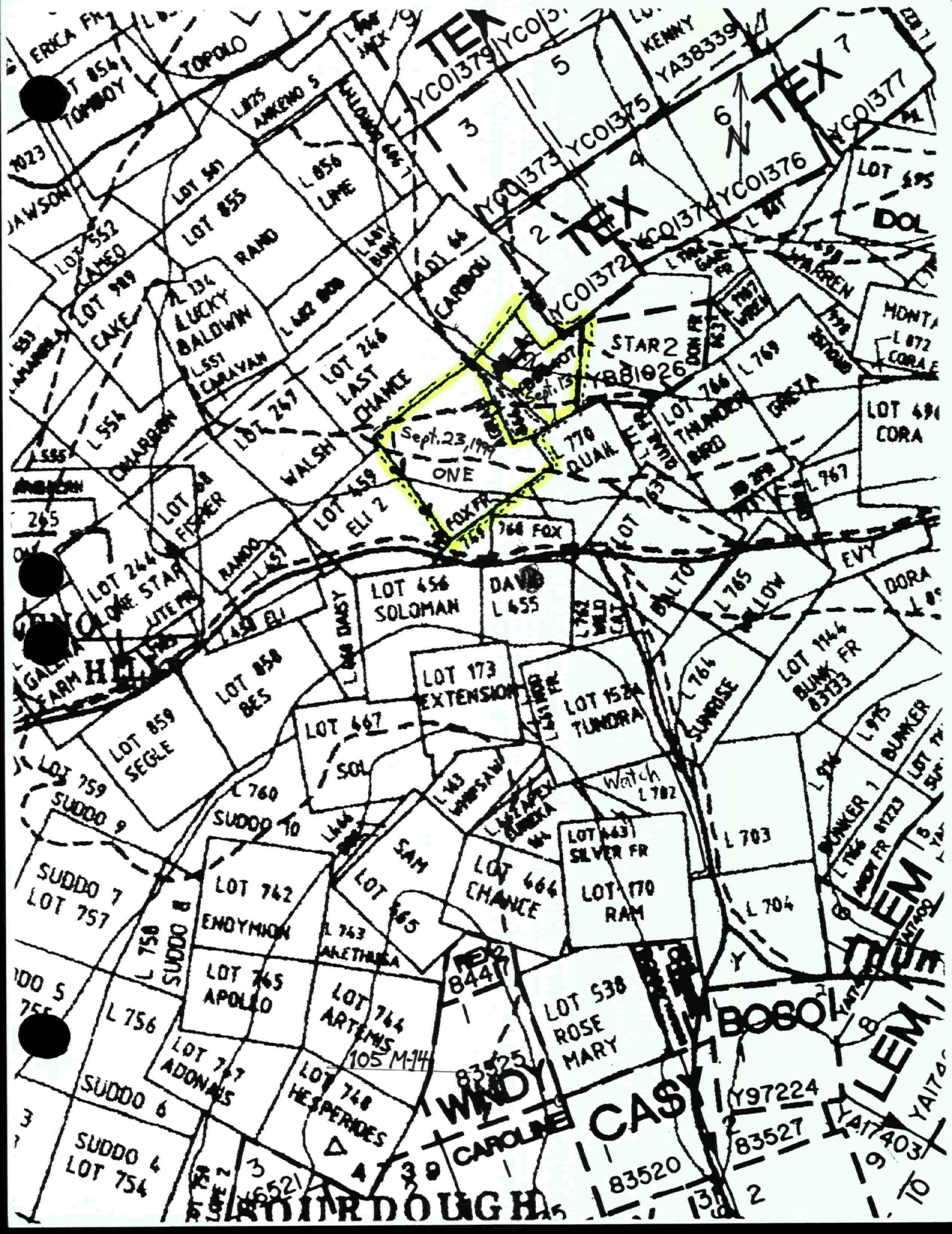
14			-																

NOTE: All hazardous samples must be labeled according to WHMIS guidelines.

Page ___ of ___


02377
Felsic Dykes "KT"
September 25 1999
Greenstone
Railroad-021 -022
September 11, 1999
54 600
Orainage tunnel
Wernecke (Abandoned)
September 10
Formo
Creek
Silver Trail
Klondyke-Keno
Gulch
Erickson
105 M-14
Galkeno Mill
Christal Lake
KENO CITY


105 M-14
September 12, 1999
Faith
McMillan
Lightning Creek
Gulch
BUNKER HILL
ADAM
HINTON
LOT 926 CARIBOU
LOT 637 DUNCAN
LOT 817
LOT 816
LOT 794
LOT 815 RAY
LOT 74 BRITANNIA
LOT 997 KARL FR
LOT 998 RUBE FR
LOT 999 MINK FR
LOT 154
6579


ERICA FR
TOPOLO
LOT 854 TOMBOY
LOT 855 RAND
LOT 552 ANSEO
LOT 789 CAKE
LOT 134 LUCKY BALDWIN
LSS1 CARAVAN
LOT 246 LAST CHANCE
LOT 247 WALSH
L 554 DAHARBON
LOT 244 ONE STAR
LOT 458 ELI 2
LOT 456 SOLOMAN
DAVID L 455
LOT 858 BES
LOT 859 SEGLE
LOT 173 EXTENSION
LOT 467 SOL
LOT 1524 TUNDRA
LOT 1144 BUNK FR 83733
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SUDDO 9
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LOT 463 SILVER FR
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L 766 THUNDER BIRD
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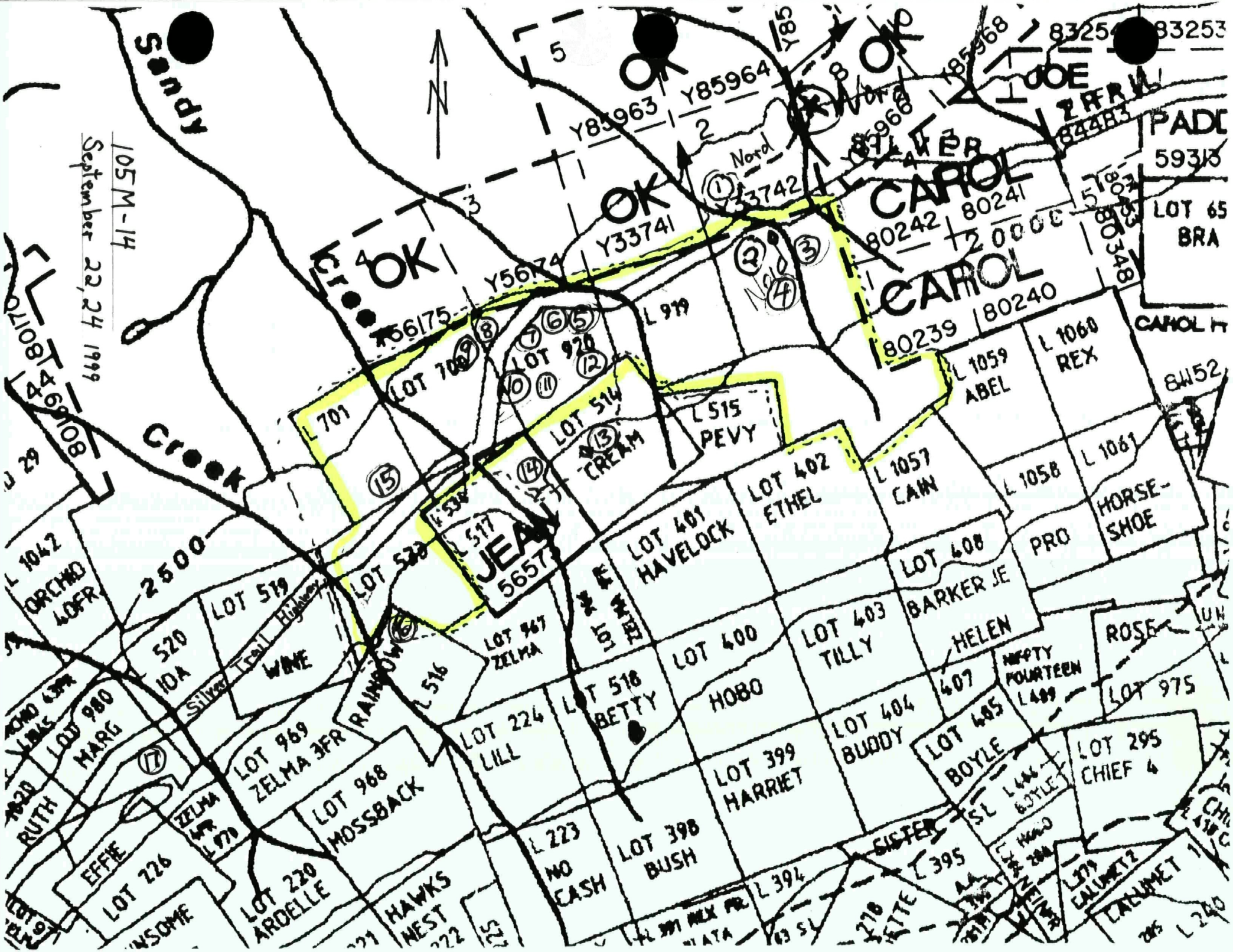
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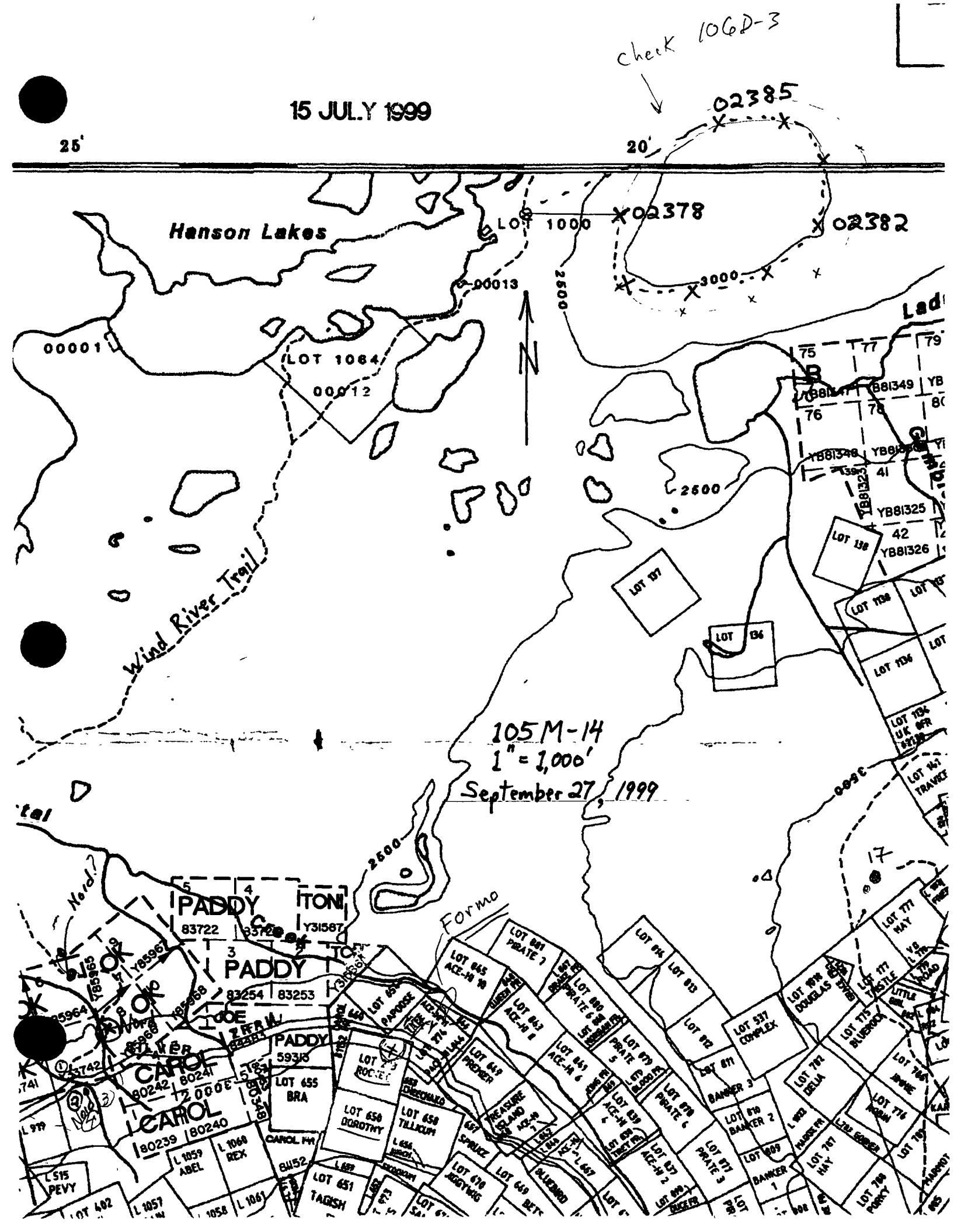
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15 JULY 1999
25'
20'
02385
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Hanson Lakes
LOT 1000
00013
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1" = 1,000'
September 27, 1999
PADDY
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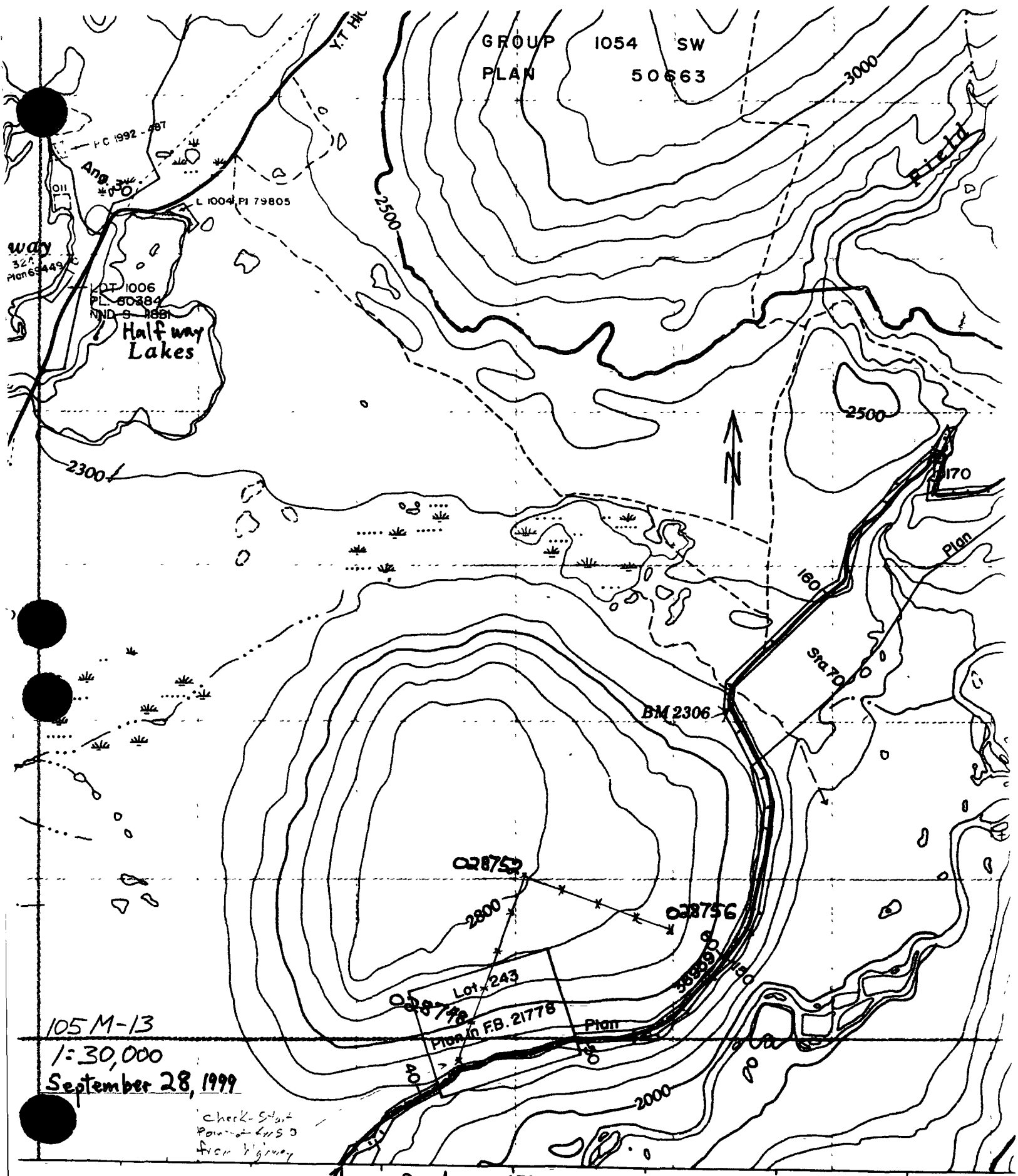

MOUNT HALDANE

CANA

SAMPLE NO.	LOCATION	COMMENTS
ROCKS		
W02-001	Highland	white QV, sl. vuggy
W10-002	Highland	QV w/ py
W10-003	Highland	Q w/ py , lim , vuggy
W18-004	Highland	rusty phyllite/quartzite w/ py
W20-005	Highland	Hornfels w/ sulphides
W20-006	Highland	Hornfels w/ sulphides
W28-007	Highland	rusty metasst w/ py
W35-008	Highland	hornfels w/ py QV, MnO2
W41-009	Highland	Q-Py. Boulder
W41-010	Highland	QFP (not for assay)
W45-011	Highland	hornfels, QV, sulphides
LS8-012	Little Salmon	Q-carb bxia (not for assay)
LS18-013	Little Salmon	rusty schist
LS26-014	Little Salmon	Q-cc-mal-cp-py vein
BA-015	Blue	Q-sulphide vein fault
Ironclad –016	Ironclad	adit dump
Railroad –017	Wernecke Railroad	greenstone w/ gn-sl-py-+
Railroad -018	Wernecke Railroad	hornfels/skarn w/ cp
Railroad –019	Wernecke Railroad	Q-cc-cp-po veins w/ skarn
Railroad –020	Wernecke Railroad	Q-py-gn-sl-+ vein
Railroad –021	Wernecke Railroad	QV
Railroad –022	Wernecke Railroad	felsic dyke (float)
BE -023	Bema	QV
BE -024	Bema	QV
KTG-025	KTG	rusty felsic dyke
KTG-026	KTG	rusty QV w/ dyke
KTG-027	KTG	QV w/ rusty greenstone
SOIL AND STREAM SEDIMENTS		
2351	Highland	Stream Sediment
2352	Highland	Stream Sediment
2353	Highland	Soil
2354	Highland	Stream Sediment
2355	Highland	Stream Sediment
2356	Highland	Stream Sediment
2357	Highland	Soil
2358	Highland	Soil
2359	Highland	Stream Sediment
2360	Highland	Stream Sediment
2361	Highland	Soil
2362	Highland	Soil
2363	Highland	Soil
2364	Highland	Soil
2365	Little Salmon	Stream Sediment
2366	Little Salmon	Stream Sediment
2367	Little Salmon	Stream Sediment
2368	Little Salmon	Soil
2369	Little Salmon	Stream Sediment
2370	Little Salmon	Stream Sediment
28791-28799	Blue claim	Soil line
02371-02373	Ironclad	Soil test pit
02374-02376	ONE	Soil test pit
2377	KTG	Soil
02386-02388	Erickson Gulch	Soil line
02378-02385	Hanson Hill	Soil line
28748-28756	Duncan Hill	Soil line
28757-28766	Little Salmon Granite	Soil line

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Mann, Bill PROJECT 1999 Prospecting File # 9904409

19 Hayes Cres , Whitehorse YT Y1A 5R2 Submitted by. Bill Mann

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Tl ppm	Hg ppb	Se ppm	Te ppm	Ga ppm	S %
W02 001	1	87	9	31	7	72	4	7	24	9	1	1	8	574	80	7	< 1	<1	2	3	17	6	05	15	13	<2	21	026	4	7	16	5	01	58	5	002	1	07	032	01	6	7	< 02	<5	< 1	< 02	1	01
W10 002	1	65	60	10	7	84	63	1	43	42	3	18	2	765	4 32	1	2	1	3	3	6	6	3	06	28	14	56	27	017	9	8	56	1	95	47	9	006	1	1	86	018	14	1	7	02	<5	1	< 02	5	5	11
W10 003	2	68	11	71	4	66	17	1	22	11	5	4	7	708	84	3	3	2	<1	2	8	20	1	03	31	12	2	33	008	8	5	19	1	05	38	9	001	1	20	010	08	7	3	02	<5	1	< 02	5	05
W18 004	2	58	48	18	11	72	60	0	51	34	8	22	0	151	3 08	6	8	2	10	4	4	4	03	27	39	13	02	014	16	2	24	2	74	37	8	025	2	1	23	010	27	2	3	06	<5	2	02	3	0	51
W20 005	1	63	13	97	5	73	20	5	41	17	5	4	0	354	1 23	3	2	3	<1	3	8	15	7	06	43	14	11	09	017	9	7	22	3	20	244	8	028	1	39	017	19	4	9	05	58	1	< 02	1	4	12
W20 006	2	54	12	38	92	78	35	1	99	10	3	2	6	153	99	3	4	5	<1	7	3	6	3	02	20	50	8	03	013	7	0	20	4	18	137	4	033	1	48	012	26	3	9	11	7	1	07	1	3	01
W28 007	1	21	12	33	7	76	55	5	15	18	4	6	5	228	2 34	2	1	8	<1	8	7	7	2	< 01	19	28	11	03	018	20	0	17	5	48	126	6	025	1	1	08	009	21	3	1	07	6	< 1	< 02	2	9	< 01
W35 008	2	45	29	41	10	06	59	6	16	20	9	13	2	965	2 57	1	0	6	<1	4	2	25	9	06	17	19	17	50	018	6	1	22	4	73	42	3	038	1	1	22	012	06	3	2	02	<5	3	< 02	3	4	01
W41 009	1	73	10	97	10	78	40	2	95	6	9	1	0	56	76	1	6	2	<1	2	1	4	7	09	12	1	19	<2	01	007	6	0	15	8	03	207	4	001	1	18	008	05	4	5	08	<5	< 1	20	3	08
W45 011	2	29	8	77	5	05	14	9	13	10	0	2	2	544	84	1	5	1	<1	1	9	21	3	06	10	08	14	20	015	7	1	31	6	27	70	1	022	1	39	014	10	3	2	03	<5	< 1	02	1	6	< 01
RE W45-011	2	40	8	62	5	26	15	3	16	10	3	2	3	553	85	1	5	1	<1	2	0	21	7	08	10	07	14	20	015	7	3	32	5	27	75	4	023	<1	40	014	10	3	3	02	<5	< 1	< 02	1	6	< 01
LS18 013	1	21	42	78	6	99	91	5	432	27	4	14	3	143	5 02	6	8	8	19	2	3	40	2	05	2	18	27	134	86	198	7	4	23	8	3	41	211	2	244	<1	2	47	019	05	9	< 02	31	1	0	09	9	4	80
LS26 014	4	40	45927	47	26	43	64	6	4334	56	5	50	0	371	2 49	28	5	7	1	3	6	131	4	44	312	06	05	2	6	65	004	3	3	9	5	26	101	5	001	<1	04	001	01	2	6	< 02	99	1	6	03	7	71
Railroad-021	1	74	112	66	16	22	31	1	199	11	1	4	1	623	1 83	106	0	2	2	6	65	8	27	1	07	09	5	2	94	023	1	4	14	1	62	26	4	002	1	14	003	04	4	5	03	17	4	< 02	4	19
BE-023	1	43	26	46	1	56	4	8	11	4	7	7		39	35	3	4	< 1	6	6	1	3	03	33	03	<2	03	010	2	3	14	3	02	10	4<	001	<1	05	001	01	4	3	< 02	<5	1	< 02	2	01
BE 024	3	02	91	59	8	18	46	8	140	13	0	2	6	291	77	91	1	2	6	4	7	0	33	2	51	12	<2	05	017	1	6	21	0	03	7	5<	001	<1	10	003	02	4	2	< 02	<5	2	03	2	01
KTG 025	1	08	16	80	35	78	736	3	686	5	5	1	7	188	1 24	7214	6	1	6	292	6	1	18	6	6	58	4	06	97	<2	38	013	8	1	7	0	04	88	0<	001	<1	34	009	18	2	1	10	7	2	2	09	6	03
KTG 026	4	54	30	66	374	99	107	6	1847	6	6	7		80	40	171	0	1	14	9	1	1	93	2	33	1	09	<2	03	002	4	4	24	6	<	01	14	7<	001	<1	03	002	02	6	1	02	<5	2	6	04	1	01
KTG 027	2	42	120	83	2	91	48	6	806	6	1	8	9	374	5 22	33	5	2	28	2	28	8	10	11	60	04	70	96	052	2	6	12	2	33	38	8	011	<1	95	001	01	3	0	85	45	6	9	02	5	6	74
STANDARD OS2	14	69	132	09	31	39	163	9	249	41	8	12	5	849	3 25	63	0	21	6	199	3	8	29	1	11	31	11	04	11	31	82	55	085	17	5	171	8	61	146	6	113	2	1	82	032	17	7	7	1	85	239	2	4	1	81	6	0	01

GROUP 1F1 - 1 00 GM SAMPLE LEACHED WITH 6 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG C FOR ONE HOUR, DILUTED TO 20 ML, ANALYSED BY ICP/ES & MS
UPPER LIMITS - AG, AU, HG, W, SE, TE, TL, GA, SN = 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 ROCK Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns

DATE RECEIVED: NOV 12 1999 **DATE REPORT MAILED:** Nov 23/99 **SIGNED BY.** C. Leong D TOYE, C LEONG, J WANG; CERTIFIED B C ASSAYERS

Data FA

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)25[illegible].6
(ISO 9002 Accredited Co.)

ASSAY CERTIFICATE

Mann, Bill PROJECT 1999 Prospecting File # 9904410

19 Hayes Cres., Whitehorse YT Y1A 5R2 Submitted by: Bill Mann

SAMPLE#	Mo %	Cu %	Pb %	Zn %	Ag oz/t	Ni %	Co %	Mn %	Fe %	As %	U %	Th %	Cd %	Sb %	Bi %
Blue Adit-015	<.001	.041	7.11	.09	6.44	<.001	.001	.01	9.69	6.30	<.01	<.01	.001	.021	.01
Ironclad-016	<.001	.003	.04	.01	.10	<.001	<.001	.03	1.55	.05	<.01	<.01	<.001	<.001	<.01
Railroad-017	<.001	.025	.71	.82	1.45	.003	.001	.09	3.91	.01	<.01	<.01	.007	.004	<.01
Railroad-018	<.001	.012	<.01	.01	.04	.004	.002	.09	5.33	.01	<.01	<.01	<.001	<.001	<.01
Railroad-019	<.001	.065	<.01	.02	.06	<.001	.001	.19	10.09	<.01	.01	<.01	<.001	<.001	<.01
Railroad-020	<.001	.025	1.82	2.73	3.58	.002	.001	.09	4.18	.01	<.01	<.01	.030	.008	.01
RE Railroad-020	<.001	.026	1.88	2.81	3.62	<.001	.001	.10	4.33	.02	<.01	<.01	.031	.009	<.01
STANDARD GC-2	.015	.923	9.03	16.70	30.01	.004	<.001	.19	11.02	.16	<.01	<.01	.092	.805	<.01

GROUP 7 - MULTI ELEMENT ASSAY - 1 000 GM SAMPLE, AQUA - REGIA DIGESTION TO 100 ML, ANALYSED BY ICP-ES.
- SAMPLE TYPE: ROCK Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns

DATE RECEIVED: NOV 12 1999 **DATE REPORT MAILED:** Nov 23/99 **SIGNED BY.....** D. TOYE, C.LEONG, J WANG, CERTIFIED B.C. ASSAYERS

Data d FA ___

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Mann, Bill PROJECT 1999 Prospecting File # 9904408 Page 1

19 Hayes Cres., Whitehorse YT Y1A 5R2 Submitted by: Bill Mann

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Tl ppm	Hg ppb	Se ppm	Te ppm	Ga ppm	S %
S02351	35	34.65	10.35	45.3	56	22.0	11.3	267	2.13	7.4	.4	1.5	0	18.7	09	42	.17	27	23	.041	16.6	20.4	44	96.5	.034	1	90	.004	.08	< 2	06	16	2	03	2.9	.01
S02352	1.49	24.72	22.14	87.9	63	26.4	26.7	2220	3.03	17.0	9	3.4	3	11.2	49	1.31	26	43	10	.064	21.6	23.7	46	191.1	.044	1.1	37	.004	.09	3	10	24	6	05	4.0<	.01
S02353	1.35	40.17	24.35	97.7	136	34.2	14.9	616	2.99	16.4	1.5	2.8	4	24.0	.41	1.55	32	46	25	.076	26.2	25.9	46	425.6	.066	2.1	51	.007	.17	2	10	52	1	05	4.4<	.01
S02354	1.18	20.52	15.47	75.0	72	24.0	14.0	864	2.17	11.9	8	<1	3	0 17.6	63	1.18	21	47	20	.066	17.0	21.6	35	182.2	.052	1	.93	.007	.07	3	06	25	4	04	3.3<	.01
S02355	81	24.52	10.48	78.3	94	22.4	10.9	718	2.01	10.3	1.0	1.2	3	15.7	61	.89	.69	38	18	.057	18.0	23.7	34	168.6	.044	1.1	04	.005	.07	3	11	27	6	03	3.3<	.01
S02356	.87	33.04	13.78	87.1	94	22.4	9.7	442	2.49	24.3	1.0	2.3	7	19.4	28	86	3.88	38	18	.054	18.9	22.7	.40	169.4	.053	1.1	17	.007	.10	8	14	25	6	06	3.6	.02
S02357	1.42	32.07	29.98	73.7	231	22.4	8.6	248	2.47	53.0	1.2	3.4	7	20.8	38	1.74	1.53	44	18	.056	21.8	24.2	.37	138.2	.069	1	93	.009	.08	3	10	45	6	07	3.3	.02
S02358	1.40	21.00	13.17	46.4	72	13.2	13.7	625	2.71	24.5	1.0	<1	1.7	13.1	24	91	4.77	53	.07	.041	19.0	19.4	27	73.9	.059	1	96	.005	.08	3	10	86	5	.04	4.6	.04
S02359	1.02	22.48	14.24	63.3	97	18.6	12.2	406	2.32	15.6	1.5	1.1	5	13.8	22	.71	72	54	13	.058	17.0	30.4	46	165.0	.043	1.1	56	.006	.07	2	12	33	6	04	5.0	.02
S02360	76	17.90	21.30	88.9	271	22.9	13.4	1157	2.26	14.4	1.5	1	8	29.7	70	83	36	35	29	.090	21.5	22.1	.40	362.3	.014	1.1	67	.006	.07	3	14	80	8	03	4.7	.07
S02361	1.08	32.92	13.01	80.6	139	28.0	11.6	474	2.76	12.9	1.6	3.5	4	19.9	22	1.25	26	56	23	.079	23.1	31.2	.59	170.6	.082	2.1	54	.008	.09	3	13	45	2	13	4.9<	.01
S02362	1.33	43.79	13.68	97.2	214	28.9	10.5	474	2.91	9.7	1.5	1	5.5	20.3	67	88	1.23	55	19	.075	23.9	30.7	.61	171.1	.095	1.1	52	.007	.11	3	31	33	3	05	4.7	.02
S02363	1.95	45.35	25.69	154.1	571	34.5	10.8	561	3.43	11.2	1.7	1.2	8	19.6	77	91	2.62	60	14	.091	24.8	35.6	.93	206.1	.079	2.2	00	.007	.11	3	49	55	2	09	6.2	.09
S02364	1.20	18.91	36.78	66.1	99	20.5	7.5	259	2.84	23.0	9	<1	5	7 12.5	36	1.23	31	51	09	.031	19.0	22.7	.42	98.2	.058	1.1	23	.006	.05	3	10	36	4	05	4.9	.01
S02365	.51	22.38	10.82	63.0	94	22.1	10.4	780	2.19	5.4	9	<1	5	5 28.6	34	55	15	27	71	.071	18.8	29.5	60	154.1	.042	2	99	.009	.11	2	07	36	8	< 02	3.2	.04
S02366	.45	22.48	12.03	57.8	101	24.2	10.8	488	2.02	5.0	1.1	4.5	2	32.5	.27	60	17	26	89	.071	17.5	28.8	62	122.0	.046	2	1.03	.009	.10	< 2	11	29	.8	32	3.2	.03
S02367	.43	20.82	7.58	52.0	58	20.1	8.4	631	1.69	4.4	8	2.3	0	21.3	24	37	11	27	47	.076	13.0	25.2	51	172.3	.059	2	88	.008	.07	< 2	06	33	6	07	2.7	.02
S02368	3.94	20.34	84.67	67.0	285	7.2	5.0	159	3.37	9.1	9	25.6	5	39.7	08	67	1.56	34	09	.055	24.8	12.3	.39	184.4	.130	1	.90	.044	.09	< 2	05	35	1.9	55	3.3	.24
S02369	.78	24.79	13.23	88.9	147	18.4	11.0	395	1.91	15.3	7	6.4	0	45.2	43	2.12	17	21.2	42	.089	9.9	10.4	1.03	170.1	.040	1	58	.005	.06	< 2	03	42	9	10	1.9	13
S02370	2.21	13.22	18.29	67.6	80	17.2	9.1	482	2.53	9.2	1.0	1.5	4	46.3	28	72	14	50	1.19	.070	16.2	16.8	.78	556.4	.057	2	.85	.021	.10	5.8	07	29	1.0	05	3.2	.04
RE S02370	2.19	12.42	18.25	68.5	79	17.9	9.1	483	2.56	8.8	1.1	2.6	0	46.4	25	75	15	50	1.18	.068	18.1	16.5	.78	547.5	.057	2	86	.021	.10	5.9	07	30	1.0	02	3.3	.04
S02371	1.01	17.06	14.19	63.5	217	17.5	7.6	329	2.18	19.6	.7	3.3	7	10.8	20	93	15	50	11	.042	14.6	27.5	40	128.7	.051	1.1	36	.005	.05	< 2	07	36	5	05	4.0<	.01
S02372	1.12	16.43	14.68	66.3	199	17.7	7.5	340	2.34	22.2	7	2.4	4	10.7	23	91	17	56	.11	.040	16.0	28.7	42	140.6	.056	1.1	45	.005	.05	2	07	30	.4	04	4.5<	.01
S02373	1.01	18.84	14.85	67.8	208	19.7	8.3	360	2.23	19.7	.8	2.4	8	11.0	31	96	16	50	12	.046	15.9	26.3	40	153.6	.057	1.1	40	.005	.05	2	07	31	4	04	4.2<	.01
S02374	1.76	20.70	36.98	110.0	1509	25.6	10.6	306	3.47	31.6	.5	18.3	5	11.2	77	1.54	23	64	.12	.065	13.5	36.0	46	181.8	.043	1.1	99	.005	.06	2	10	52	8	09	5.5	.01
S02375	2.68	72.69	119.03	196.3	588	37.2	12.2	603	3.43	81.9	1.2	6.6	1	6.8	2.03	5.80	.33	31	07	.056	17.6	21.0	35	109.4	.037	<1	1.03	.002	.04	< 2	05	35	1.6	07	2.4<	.01
S02376	2.50	69.75	96.09	176.8	1388	33.6	12.3	764	3.07	69.6	1.0	6.5	6	10.8	1.40	5.21	25	28	16	.086	19.4	19.7	32	165.5	.032	<1	.80	.003	.03	< 2	05	81	8	05	2.3<	.01
S02377	3.58	81.35	34.65	215.3	691	100.7	70.6	1618	7.68	112.2	1.9	7.7	4	158.7	1.19	1.62	31	36	2.40	197	18.3	66.0	1.89	118.2	.008	1.1	47	.004	.06	< 2	35	34	1.3	13	3.6	.01
S02378	1.89	29.24	11.64	73.8	85	31.4	11.9	288	2.65	14.3	9	3.6	4	23.6	16	.95	19	58	37	.072	15.6	39.3	1.16	177.0	.101	1.2	03	.050	.12	< 2	26	22	7	03	6.0	.05
S02379	5.44	31.03	10.31	73.8	63	37.7	12.5	398	2.84	21.7	7	6.4	4	18.2	29	1.03	35	47	24	.047	17.5	32.3	77	243.5	.060	1.1	65	.016	.08	< 2	21	18	7	04	5.0	.04
S02380	3.44	16.23	9.08	55.2	125	18.0	8.1	274	1.85	16.9	9	1.3	5	24.2	14	59	25	38	58	.062	13.7	20.7	42	246.3	.038	3.1	05	.012	.07	2	09	35	1.2	03	3.5	.02
S02381	3.36	40.39	11.00	76.5	83	38.7	15.5	298	2.78	54.8	1.0	4.6	1	27.1	23	1.07	.38	46	.47	.076	17.4	27.6	71	197.4	.054	2	1.36	.024	.08	2	17	17	1.1	.07	4.1	.04
S02382	2.22	31.16	11.34	67.0	110	23.7	13.7	459	2.35	42.2	.7	5.3	0	19.7	29	70	26	47	43	.039	14.1	25.5	43	341.2	.033	1.1	22	.008	.06	2	09	18	8	03	4.2	.02
S02383	2.05	38.59	15.05	135.0	197	32.0	17.7	522	2.78	101.0	8	2.3	9	23.2	35	97	.58	42	.56	157	17.5	26.3	69	230.3	.040	1.1	29	.009	.08	< 2	13	16	9	05	4.0	.02
STANDARD DS2	14.21	130.06	31.62	165.0	275	37.0	13.1	828	3.27	59.6	21.3	193	3.6	30.4	11.52	10.35	10.88	83	.56	.081	17.8	168.6	62	159.3	.112	2.1	82	.033	.16	6.9	1.89	232	2.5	1.80	6.3	.01

GROUP 1F1 - 1.00 GM SAMPLE LEACHED WITH 6 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 20 ML, ANALYSED BY ICP/ES & MS.
UPPER LIMITS - AG, AU, HG, W, SE, TE, TL, GA, SN = 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. SOIL Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: NOV 12 1999 **DATE REPORT MAILED:** Nov 23/99 **SIGNED BY:** C. Leong D TOYE, C LEONG, J. WANG; CERTIFIED B C. ASSAYERS

 Data d FA ____

ACME ANALYTICAL

Mann, Bill PROJECT 1999 Prospecting FILE # 9904408

ACME ANALYTICAL

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Tl ppm	Hg ppb	Se ppm	Te ppm	Ga ppm	S %
S02384	1.54	53.41	13.35	102.4	399	29.2	14.2	552.2	25	105.4	1.2	2	1.6	29.8	.44	73	44	37	70	088	16.6	22.9	50.332	9	021	2.1	13	009	05	2	12	35	9	04	3.6	04
S02385	2.34	27.61	9.86	61.1	181	23.1	10.3	338.2	26	34.9	1.0	1	4.1	27.9	.19	87	30	38	55	076	16.6	22.8	46.304	3	032	2.1	10	012	06	.2	11	29	1.0	03	3.6	04
S02386	1.85	43.77	49.01	185.6	675	45.2	14.6	790.2	31	26.3	2.5	2	4.4	15.9	.44	1.54	14	37	23	067	22.7	22.8	42.222	7	040	1.1	12	005	03	< 2	05	58	8	02	3.1	01
S02387	1.50	36.46	54.02	339.4	756	55.2	15.6	1751.2	97	54.6	3.1	2	3.1	20.5	56	1.66	.16	39	24	069	18.4	25.4	43.164	3	038	1.1.17	006	04	< 2	05	66	9	04	3.4	01
S02388	1.85	52.29	25.29	144.0	615	43.4	14.1	727.2	69	27.4	3.8	4	4.1	22.4	48	1.29	22	49	43	074	18.7	28.3	50.453	6	034	1.1	50	008	05	< 2	11	100	6	.02	4.3	01
T28748	.60	16.57	7.75	40.0	73	19.3	6.2	144.1	83	12.8	5	1	4.5	10.1	07	96	14	32	11	037	15.2	16.5	27.154	3	025	1.1	00	004	05	3	04	17	4	03	2.7<	01
T28749	71	13.00	7.83	40.9	37	18.5	6.2	164.1	92	14.0	6	1	4.8	9.3	04	96	13	35	10	034	13.5	19.3	27.162	4	028	1.1	01	003	04	2	05	30	4	03	2.7<	01
T28750	63	11.92	8.77	46.8	79	15.0	6.0	223.1	98	11.1	4	<1	4.0	6.7	06	67	15	41	06	024	13.9	20.9	.30	185.5	028	1.1	10	004	04	< 2	06	21	4	< 02	3.4<	01
T28751	44	35.39	10.67	72.7	50	34.9	12.5	468.3	40	9.9	1.7	<1	14.5	15.0	02	45	28	22	21	043	53.0	20.7	65	192.2	010	<1	1.52	004	04	< 2	06	68	2	.13	4.3<	01
T28752	72	17.37	9.88	47.1	34	18.1	7.0	208	2.14	11.7	1.3	<1	5.7	11.5	04	90	.16	43	13	036	20.4	23.0	39	260.0	038	<1	1.28	004	04	< 2	08	45	8	03	3.7<	01
T28753	69	17.93	9.80	38.2	50	16.9	6.4	174.1	77	9.7	1.1	1	4.7	13.5	06	71	16	40	16	022	18.1	18.3	32	267.4	031	<1	1.09	005	03	< 2	06	31	5	03	3.6<	01
T28754	1.03	31.61	10.64	58.4	30	24.6	8.3	300.2	29	13.6	1.0	1	6.4	14.9	09	1.13	19	45	15	018	24.1	19.2	43	363.1	048	<1	1.17	006	.04	< 2	05	60	5	02	3.7	01
T28755	55	17.94	12.39	42.7	12	18.2	6.8	178.2	15	9.7	9	<1	8.5	8.2	05	64	.16	24	07	025	29.8	15.9	32	92.9	017	<1	99	003	03	< 2	04	32	3	< 02	2.9<	01
T28756	44	31.91	13.53	55.0	82	25.2	9.5	330.2	50	8.0	1.8	1	11.8	18.0	02	56	27	22	25	038	42.7	15.1	38	223.7	012	<1	1.06	004	04	< 2	08	106	3	24	3.1	01
T28757	75	40.14	17.48	49.3	132	21.6	13.4	419.2	35	31.7	8	5	5.4	52.1	25	2.19	26	29	2.67	085	13.8	19.4	74	145.4	052	<1	85	008	17	3	08	31	5	12	2.6	01
T28758	92	22.12	11.78	35.0	47	21.4	10.2	189.2	10	17.8	5	2	4.1	14.4	09	93	16	36	24	023	11.1	22.4	.51	136.0	056	1.1	21	006	11	< 2	07	10	2	04	3.6	01
T28759	84	16.79	8.01	37.1	29	20.9	8.1	186	2.08	8.2	7	<1	5.2	17.1	05	70	18	48	27	017	13.1	28.5	47	96.0	120	<1	1.22	010	17	2	10	15	4	02	4.0<	01
T28760	39	21.11	6.74	28.5	469	16.1	6.6	396.1	82	8.6	2.9	<1	5.3	17.0	06	46	19	46	17	.023	14.5	16.8	23	144.3	084	<1	1.44	028	12	3	07	29	1	02	4.4<	01
RE T28760	43	22.69	7.47	29.1	523	16.9	7.1	412.1	87	9.3	3.2	<1	5.6	17.9	06	49	20	46	18	024	15.4	16.7	24	151.5	085	<1	1.50	029	13	2	07	27	1	< 02	4.7<	01
T28761	16	8.22	2.14	11.2	141	4.9	2.9	181	90	3.1	4	<1	1.4	11.0	02	20	08	32	12	017	5.1	5.8	08	77.2	052	<1	.55	033	06	< 2	02	16	2	< 02	2.1<	01
T28762	.78	12.41	7.30	36.0	41	18.2	7.3	195.1	93	7.1	7	<1	4.9	16.7	05	58	.17	48	28	025	13.7	26.5	47	100.0	123	1.1	12	010	16	2	09	10	4	02	3.9<	01
T28763	98	17.46	10.48	50.4	57	20.7	8.1	224.2	18	16.5	7	4	6.0	11.7	08	61	.30	53	16	039	12.8	25.2	.48	140.7	105	<1	1.50	010	14	5	12	13	3	05	5.6<	01
T28764	64	10.63	4.69	25.4	21	10.8	4.4	116	1.34	5.3	7	<1	3.3	9.8	05	47	17	38	10	012	9.5	14.3	26	76.8	070	<1	90	013	04	2	07	14	2	< 02	3.5<	01
T28765	66	15.12	9.73	83.8	57	10.2	11.2	301.1	80	4.3	6	<1	2.5	13.8	.31	.33	49	50	14	.058	8.9	11.5	24	125.8	094	<1	1.22	013	11	4	11	10	2	02	6.7<	01
T28766	53	9.76	6.26	52.8	42	12.3	6.7	400.1	59	6.1	6	<1	4.2	16.2	10	.39	.22	39	25	034	10.1	19.4	31	171.6	082	1	99	008	12	3	09	8	2	< 02	4.0<	01
T28791	97	39.51	21.40	107.5	397	26.0	10.5	311.2	46	25.4	3.7	5	4.5	29.2	49	1.47	25	46	49	076	16.4	24.2	46	247.2	029	1.1	38	007	06	< 2	10	72	1.5	04	4.2	02
T28792	1.05	28.59	19.45	81.5	319	22.5	11.2	270	2.53	25.5	1.7	53	4.7	26.6	29	1.24	19	42	46	075	15.6	22.2	42	205.7	032	1.1	20	006	05	< 2	08	52	1.1	02	3.6	02
T28793	1.20	21.88	21.52	122.9	259	24.0	13.5	2458.2	17	22.5	1.3	2	2.0	64.2	63	1.17	18	32	1.21	077	9.6	20.0	40	270.3	021	3.1	01	007	04	2	07	63	1.3	03	3.1	07
T28794	65	21.00	19.28	106.9	268	22.4	8.9	325.2	13	18.3	1.8	2	2.9	42.8	54	1.06	17	37	76	080	11.7	21.5	43	237.4	022	1.1	18	006	04	< 2	07	54	1.3	03	3.5	07
T28795	.58	24.20	16.96	89.5	261	21.5	8.0	275.1	86	12.6	1.3	3	3.8	34.7	43	.95	.16	34	52	072	13.5	19.3	38	188.7	030	1.1	05	007	04	< 2	06	55	9	02	3.1	04
T28796	15	16.18	16.43	82.8	144	19.5	8.1	129	1.38	5.8	9	<1	4.6	36.3	49	73	11	29	51	065	16.3	16.4	33	180.6	040	1	85	009	04	2	04	126	1.2	< 02	2.7	06
T28797	70	16.37	12.17	44.2	146	14.3	4.7	107.1	18	16.1	5	1	2.5	9.7	17	1.17	08	21	.17	050	10.2	9.5	21	64.5	.037	<1	.56	003	02	< 2	03	39	5	< 02	1.7<	01
T28798	95	26.69	17.94	51.7	249	15.9	5.2	366.1	15	27.2	3	2	2.4	7.0	38	1.98	08	16	14	057	9.0	9.4	17	79.2	035	<1	39	002	02	< 2	02	23	4	< 02	1.2<	01
T28799	74	21.15	12.08	56.3	145	18.2	6.5	181.1	68	11.8	6	2	3.3	12.2	25	1.05	12	35	17	049	13.8	13.9	33	137.5	049	<1	98	005	03	< 2	04	29	5	02	2.8<	01
STANDARD DS2	14.49	132.48	31.63	166.1	267	38.2	12.9	847.3	30	59.3	21.3	189	3.7	31.1	11.50	10.72	11.06	85	57	082	18.1	160.1	63	152.0	.128	3.1	87	034	18.6	7.1	91	245.2	6.1	85.6	4.02

Sample type SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns

Data FA