

**WORK REPORT ON SUMMER, 2023,
SURFICIAL GEOLOGIC MAPPING, MAGNETIC SURVEY,
VLF-EM SURVEY & SAMPLING
ON PLACER CLAIMS MIN 1 (P527443) & MIN 2 (P527441),
MINNESOTA CREEK, MT. NANSEN AREA, YUKON**

**Field Work & Report by:
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Property Holders:

MIN 1 (P527443)	MIN 2 (P527441)
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R0E0C0	V1T6S3

**Field Work June 4 -18; 2023
Report Completed July 10, 2023**

Summary of Reported Work:

Geographic Area: NTS 115-I-03-P, Mt. Nansen area

Mineral Dispositions: P527443 (MIN 1) & P527441 (MIN 2)

Target Commodity: placer gold

GPS Flagged Grid: 0.8 line km, 100m line spacing, 25m station spacing

Surficial Geologic Mapping: 2.4 line km, 1:2000 scale

Ground VLF-EM Survey: 0.8 line km, 100m line spacing, 12.5m station spacing

Ground TF Mag Survey: 0.8 line km, 100m line spacing, 12.5m station spacing

Gravels Sluiced: 1 cu yd

Report Software: Microsoft Office Word, Paint

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SUMMARY

This report describes the results of a small program of flagged grid installation, surficial geological mapping, magnetic and VLF-EM surveying, and sampling over two placer claims at the bottom of Minnesota Creek, a tributary of Victoria Creek, in the Mt. Nansen area of the Yukon. The claims were staked in August, 2022, to cover ground believed prospective for placer gold. This report is being prepared for the purpose of satisfying work requirements on the claims.

The Mt. Nansen district has had a history of modest placer gold production along Nansen Creek and Victoria Creek, as well as various tributaries. These placer creeks occur in the area of two main bedrock gold vein systems, the Mt. Nansen deposit, presently undergoing site rehabilitation, and the Klaza deposit, presently under active exploration. Placer gold exploration in the Mt. Nansen area is complicated by glaciation, which has both covered and redistributed surficial gold, but recent discoveries of significant placer accumulations at depth above weathered bedrock has generated new interest in the area. Both bedrock mineral showings and glacially redistributed material may have shed placer gold into Minnesota Creek.

The work area on the northwestern halves (right limit) of the MIN claims was found to be mainly covered in sand, but fluvial gravels were located in two areas, along Minnesota Creek, and east of nearby Victoria Creek. This work has tentatively identified a north-south paleochannel of Victoria Creek, east of its present course. The interpreted paleochannel is characterized by a magnetic low, weak VLF-EM anomalies, and an arcuate, swampy and treeless fen. This paleochannel is well outside the riparian zone of Victoria Creek, and is an attractive target for placer gold. A 1-yard surface sample of fluvial gravels from adjacent to the interpreted paleochannel was sluiced onsite, with four nice specks and 40 to 50 fine specks of gold recovered. While well short of commercial grades, this work indicates that the area is fertile for placer gold. The sluiced

sample was taken from surface gravels down to 0.75m, but grades can be expected to improve with depth.

Drill testing of the subsurface gravels is recommended across the area of the interpreted paleochannel.



William C. Hood, P. Geo.

July 10, 2023

INTRODUCTION

This report describes the results of a small program of flagged grid installation, surficial geological mapping, magnetic and VLF-EM surveying, and sampling over two placer claims at the bottom of Minnesota Creek, a tributary of Victoria Creek, in the Mt. Nansen area of the Yukon. The claims were staked in August, 2022, to cover ground believed prospective for placer gold. This report is being prepared for the purpose of satisfying work requirements on the claims.

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This work on Minnesota Creek is intended to provide baseline geological, geophysical and sampling data for future drilling and/or backhoe sampling.

LOCATION, ACCESS & PHYSIOGRAPHY

The Minnesota Creek placer claims are situated in southwestern Yukon, about 170 km northwest of Whitehorse, and 40 km due west of Carmacks (Fig. 1). Basic groceries, supplies, fuel and accommodations are available in the town of Carmacks. The claims are 4 km southeast of the Mt. Nansen mine, which is presently undergoing site rehabilitation. Access to the area is from the Mt. Nansen Road, which is a one-lane gravel road that is maintained year-round



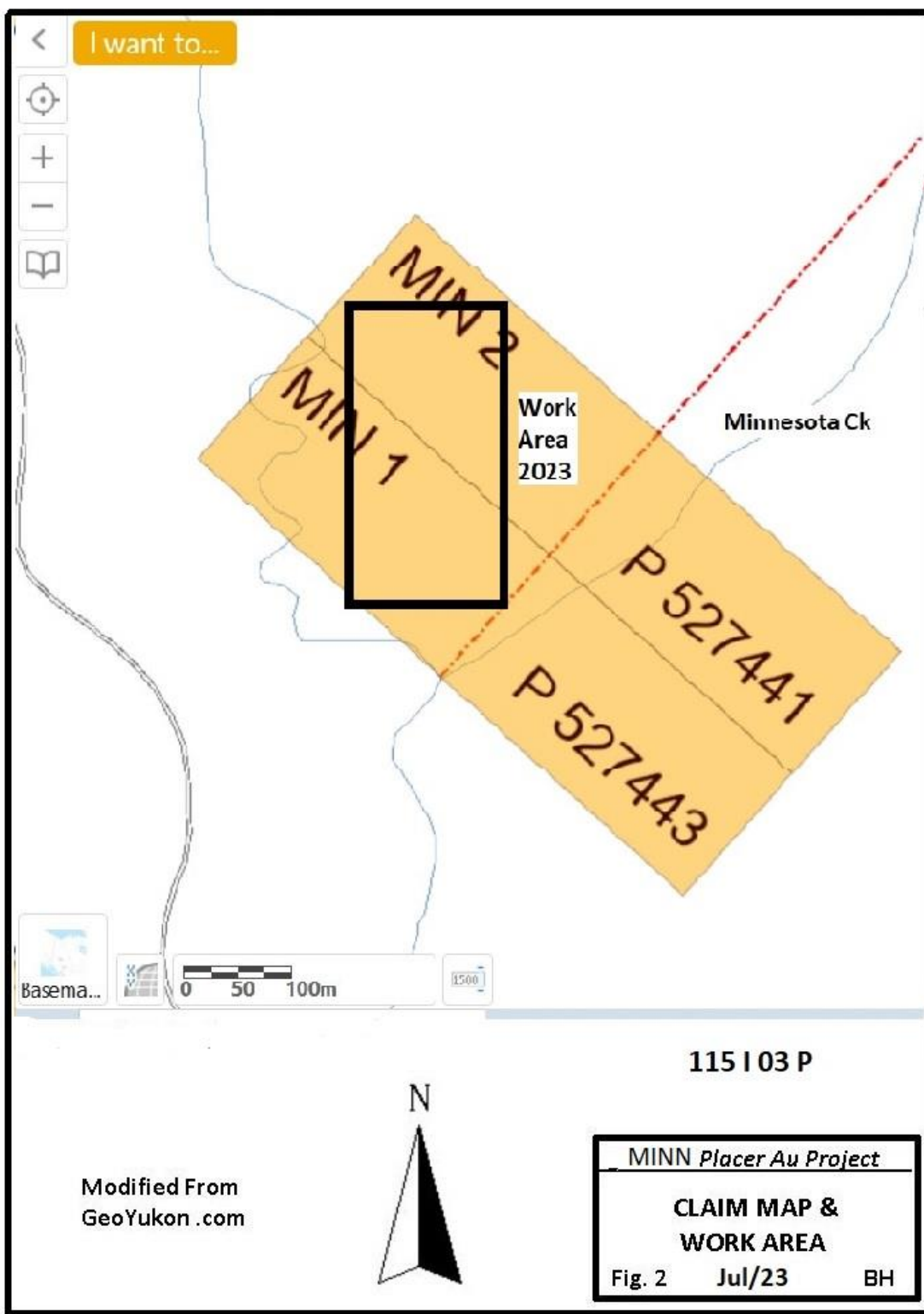
by the Yukon government to provide access to the Mt. Nansen mine rehabilitation project, as well as placer mines and exploration projects in the area.

Access to Minnesota Creek is from the Mt Nansen road, which lies just southwest of the claims. Access for the summer, 2023, work was on foot, a short 0.5 km walk from a small gravel pit on the northeast side of the Mt Nansen road, just northwest of the Victoria Creek crossing. Camp for this project was on the unmaintained portion of the Nansen/Klaza road at a point about 2 km west of the Mt Nansen mine, utilizing facilities from a previous mineral project that were not in use in summer, 2023. The driving distance from this camp to Minnesota Creek was 14.3 km.

Physiography in the Minnesota Creek area is hilly, with shallow ridges flanking both the northwest and southeast sides of the valley. Elevations along the location line range from 991m at the #1 post of the MIN 1, to 1006m at the #2 post of the MIN 2 claim. Somewhat higher and steeper topography is present along the left limit of the claims, southeast of Minnesota Creek. The creek bottom is brushy with willows and buckbrush. The claim area is treed with spruce and minor poplar. Permafrost is locally present at shallow depths, especially in mossy areas.

CLAIM STATUS

The Minnesota Creek placer gold property presently comprises two claims, MIN 1, P527443, and MIN 2, P527441, both recorded August 22, 2022. The claims cover the bottom of Minnesota Creek, just above where it joins Victoria Creek. The location line is oriented at about 040-220° azimuth. The MIN 1 claim is held by the author of this report, William C. Hood of Beausejour, Manitoba, while the MIN 2 is held by Donald A. Hood of Vernon, BC, the author's brother. The claims are shown on map sheet 115 I 03 P. The work area on the claims is shown on Figure 2.



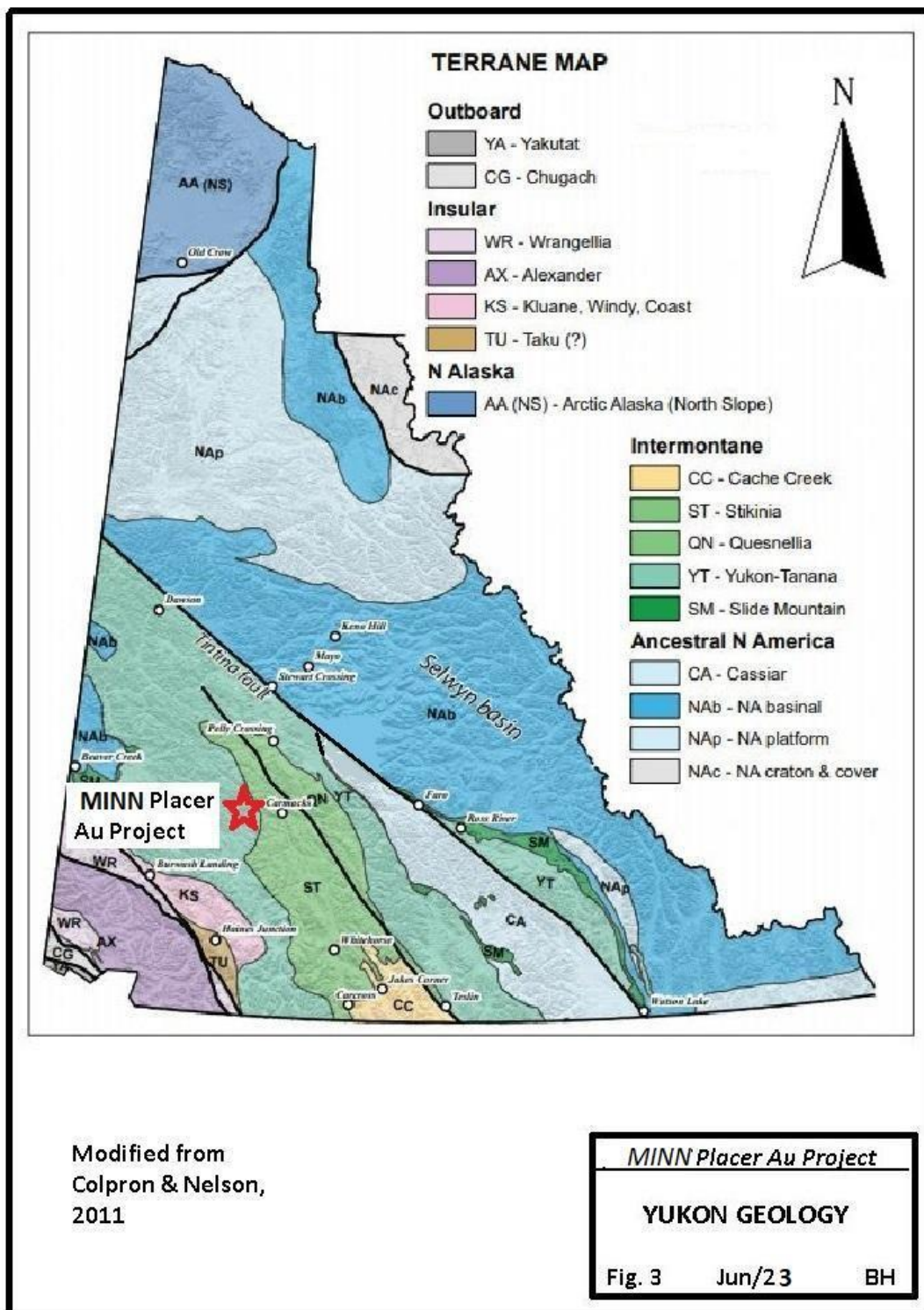
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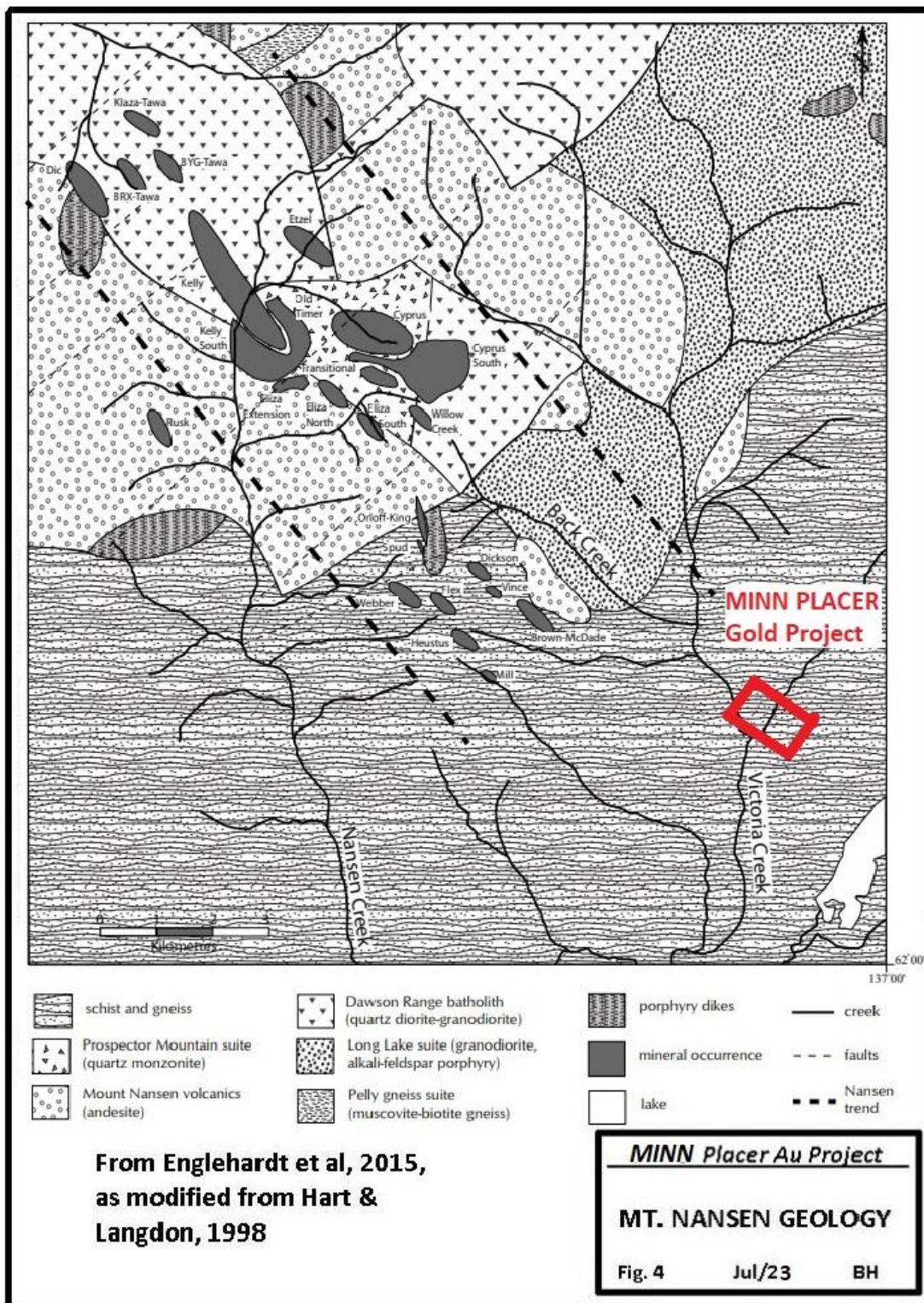
The Mt. Nansen area lies within the Yukon Tanana terrane, which is interpreted to have formed in an island-arc, back-arc basin environment associated with Mesozoic era continental accretion. Basement rocks in this terrane comprise assorted schists and gneisses of Proterozoic through Paleozoic age. These rocks are cut by a range of intrusive and volcanic rocks of Jurassic to Cretaceous age (Fig. 3).

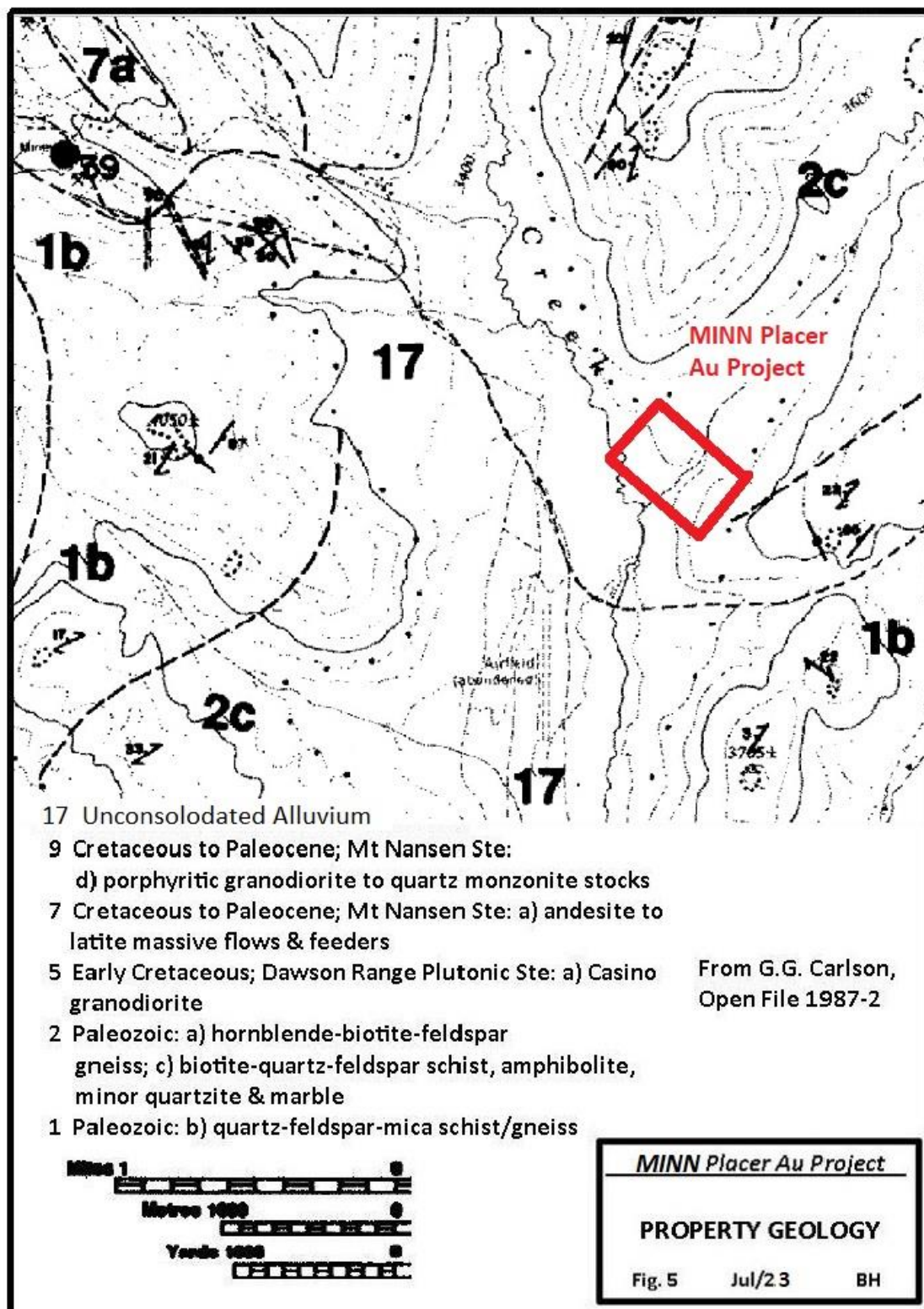
The Mt. Nansen area is underlain by older metamorphic rocks of the Yukon Group to the south, cut by younger Cretaceous intrusive and volcanic rocks to the north, including the southeast end of the Dawson Range Batholith. These rocks are intruded by numerous late porphyritic dikes throughout the area, with associated gold-bearing veins and porphyry systems, including the formerly producing Mt. Nansen mine and the Klaza deposit, presently under active exploration (Fig. 4).

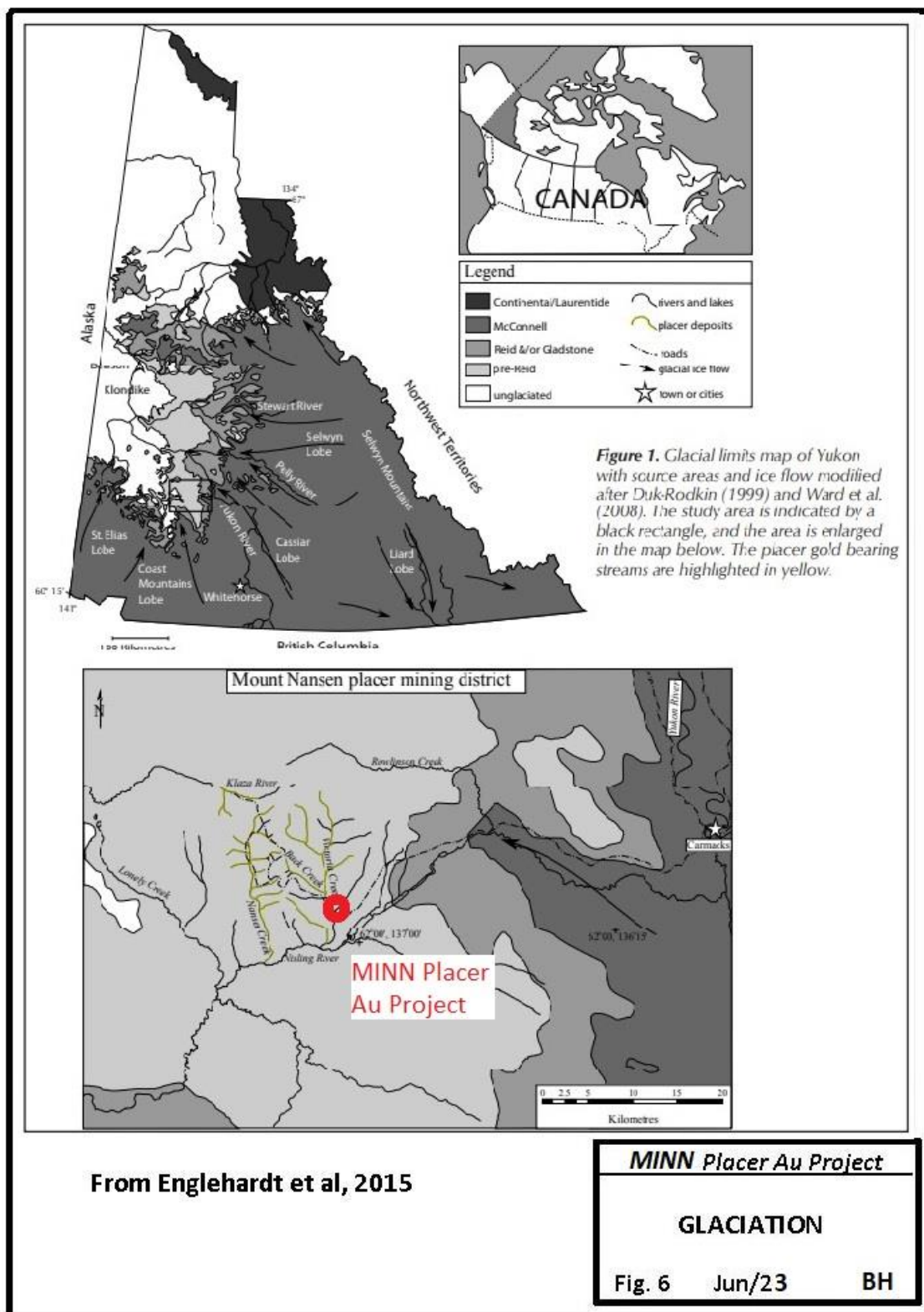
The area of the Minnesota Creek (MINN) project is underlain by Paleozoic age biotite-quartz feldspar schist and amphibolite. Significant vein gold and porphyry style mineralization is known in Cretaceous age volcanic and intrusive rocks to the northwest of, and upstream from, the MIN claims (Fig. 5).

Placer gold production, and the interpretation of potential target areas for additional production, has been complicated by glaciation which has both redistributed gold grains and covered pay gravels with till (Fig. 6). Most historical production has been from surface gravels, and above the “false bedrock” of clay-bearing glacial till units, but recent work has indicated that significant gold can be recovered from deep gravels above weathered bedrock, though with high stripping ratios.









WORK PROGRAM; SUMMER, 2023

A small program of flagged grid installation, surficial geologic mapping, magnetic surveying, VLF-EM surveying and sampling/sluicing was completed over 6 days from June 4 to June 18, 2023. Prospecting in 2022 had located fluvial gravels with minor gold specks along Minnesota Creek near the location line in the MIN 2 claim and east of Victoria Creek within the MIN 1 claim, so the 2023 work program was confined mainly to the northwest half (right limit) of the claims.

Two 400m lines, spaced 100m apart, were flagged at 25m intervals, east-west across the claims at UTM 6879400N (line 400N) and 6879500N (line 500N). Flagged stations were located by GPS, using a Garmin 64S instrument. Specifications for this instrument indicate 3m accuracy, but where visible over a distance, accuracies appear to be better than 2m. Lines and stations were numbered with the last three digits of the NAD83, Zone 8, UTM coordinates, so grid easting plus 392,000 equals true UTM easting, while grid northing plus 6,879,000 equals true UTM northing. All flags were marked with line and station numbers. Locations for readings taken at 12.5m points were estimated between flagged stations. The flagged grid totalled 0.8 line-km. In addition, 1.2 km of GPS-controlled traverse was completed for surficial geology mapping purposes along the location line and right-limit perimeter of the claims.

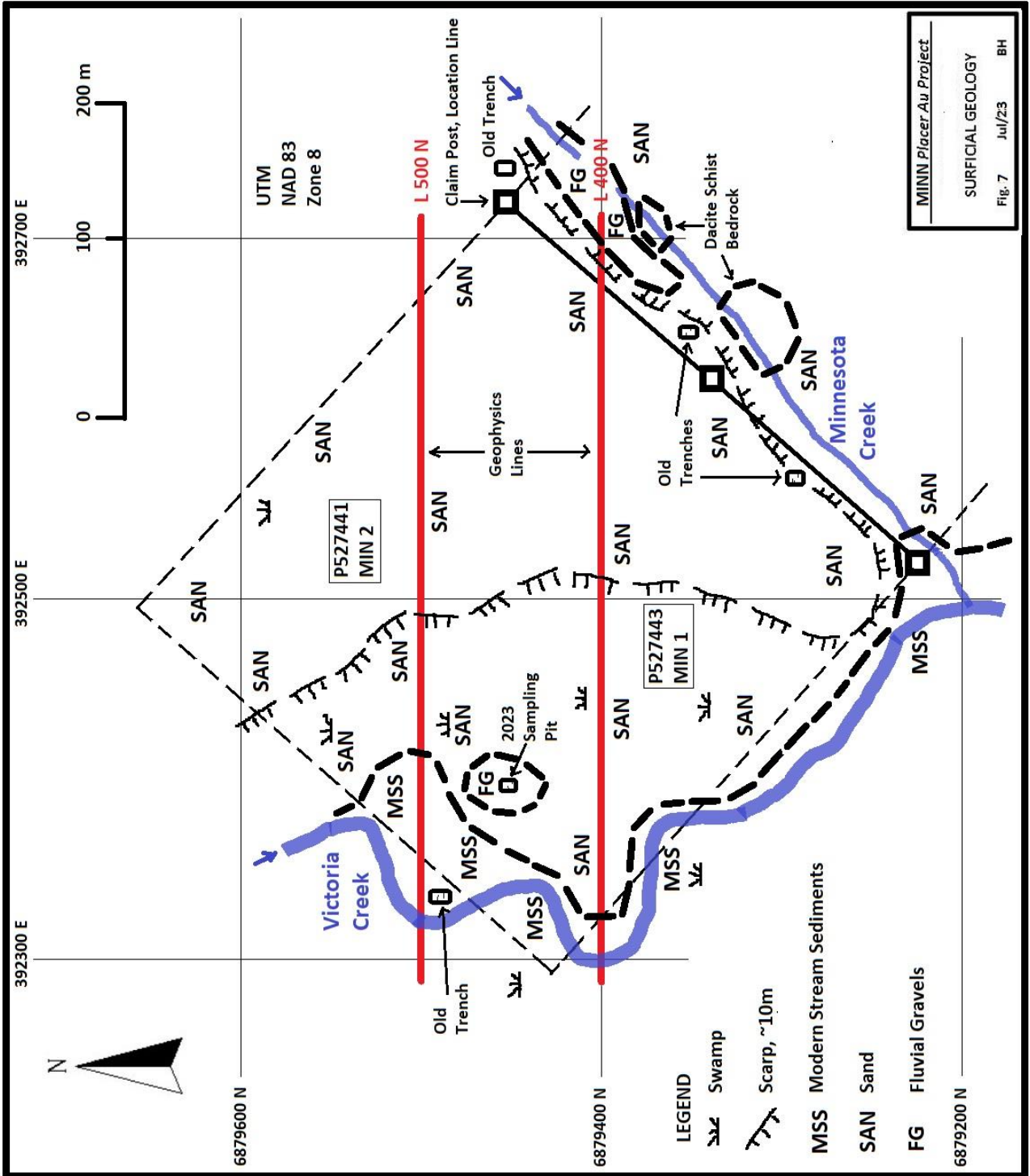
Detailed mapping of the surficial materials was completed by the author, assisted by D. Hood, at a scale of 1:2000. The two lines of magnetic and VLF-EM geophysics were completed using instruments owned by the author. The previous 2022 field prospecting work and examination of satellite/aerial photos indicated a probable paleochannel of Victoria Creek, extending north-south across the northwest ends of both the MIN 1 and MIN 2 claims at about grid 400E to 500E. The main objective of this work was to characterize the surficial materials across this paleochannel target, and determine whether Victoria Creek and the target zone had any distinctive geophysical characteristics which could relate to placer gold mineralization. Field notes from the mapping are included in Appendix I. Several photographs are in Appendix II.

The total field magnetic survey was completed using a Geometrics G-856 proton precession magnetometer. Details and specifications on this instrument are included in Appendix III. All field readings were looped from a base station location at L400N/400E. All data was leveled relative to this point, which averaged at 56,241 nT, in direct proportion to elapsed time. The magnetic survey was run on a day when solar activity and geomagnetic disturbance was minimal, as monitored in daily reports on shortwave station WWV. The maximum drift within a loop was 13 nT. Data error is expected to fall within a plus/minus 5 nT bracket, which is adequate for this survey.

The VLF electromagnetic survey was completed using a Geonics EM-16 instrument tuned to NPM, Hawaii, 21.4 khz. Details on this instrument are included in Appendix III. Although not optimum in terms of field orientation, NPM had the best combination of signal strength, null clarity and field orientation of the available stations. All VLF readings were taken facing northwest, with east-to-west, plus-to-minus (or sometimes less positive) in-phase crossovers marking conductive horizons.

The results from surficial geologic mapping across lines 400 and 500N, as well as the perimeter traverse around the northwest half (right limit) of the MIN claims, are shown compiled on Figure 7. Organic material, mainly brown sphagnum moss and black humus, typically about 10 to 20 cm thick, but thicker along creeks and low flat areas, is ignored in this mapping. Also ignored is the ubiquitous white to grey White River tephra ash deposit, typically 5 to 10 cm thick, immediately underlying the organics. Field notes are included in Appendix I and provide background data to the interpreted surficial geology. Permafrost was commonly found throughout the area at shallow depths ranging from 0.3 to 1m. Several old excavator pits were found along Minnesota and Victoria Creeks.

The MIN 1 and MIN 2 claims are mainly covered in sand (unit SAN). This type of sand unit is common in the lower part of creeks in the Mt Nansen area. This sand is well sorted, and tan coloured where dry, and brown where wet. It is locally weathered and rusty in the top 30 cm or so. The sand typically contains about 10% pebble to cobble sized clasts. The clasts consist of about 50% angular schist



MINN Placer Au Project
SURFICIAL GEOLOGY
Fig. 7 Jul/23 BH

fragments, both mafic biotite-amphibole schist and sericitic dacite clasts, probably derived from the local bedrock, and 50% subangular to subrounded clasts of granite to granodiorite, probably transported from Cretaceous lithologies to the north. Minor white quartz pebbles and cobbles are also noted. Within the sand unit, a 5 to 10 m high scarp extends along the north side of Minnesota Creek and then north across the center of the MIN claims. Field prospecting and examination of satellite/aerial photos suggest that an old paleochannel of Victoria Creek extends north-south across the MIN claims between about grid 400E and 500E. This interpreted paleochannel is characterized by a zone of open, treeless swampy fen, flanked to the east by the abrupt scarp feature in the sand, and to the west by well-treed, slightly higher and better drained ground.

Two areas of fluvial gravels (unit FG) were found within the map area, but are believed to be much more extensive, immediately underlying the sand (SAN) unit. Large rounded boulders of granite-granodiorite were noted in Minnesota Creek, and an area of fluvial gravels found adjacent to the creek in the central-northeastern area of the MIN 2 claim, just southeast of the location line and below the sand scarp. Several pans found no gold specks in these gravels. Another area of fluvial gravels, locally overlain by sand, was found between lines 400N and 500N, at about 400E, just east of Victoria Creek. These gravels are brown coloured and generally matrix-supported, with about 50% sand, 40% pebbles and 10% cobbles. Clasts in these gravels are subangular to rounded, comprising about 50% granite, granodiorite and porphyry, 30% dark grey basalt, 10% diorite/gabbro, and 10% schist. Several pans of these gravels returned minor gold specks.

The youngest surficial unit (unit MSS) is the modern stream sediments occurring in a narrow band along Minnesota Creek and a wider floodplain area along Victoria Creek. These sediments comprise thin beds of brown clay, silt and sand locally exposed along the creek and in the banks. Sand deposition from the spring flood was widespread through the low ground along Victoria Creek at the west ends of both lines 400 and 500N. A well-exposed section of the modern stream sediments (unit MSS) can be found at about 490N/330E, along the east bank of

Victoria Creek, exposing a 1m thick section of well-bedded clay, silt and sand sediments, underlain by fluvial gravels.

Bedrock was found in two places along Minnesota Creek within the MIN 2 claim. This bedrock lithology was a sericite schist of about dacite composition. This rock was brown weathering but grey on fresh surface, and dipped shallow to the northeast.

The total field magnetic survey results across lines 400N and 500N are shown on Figure 8. Magnetic readings in this work area were very flat, falling within a less than 100 nT range, from 56,198 nT to 56,289 nT. Areas with significant sand (unit SAN) deposition tended to have magnetic intensity, greater than 56,250 nT, while magnetic readings along Victoria Creek and the interpreted paleochannel were less than 56,250 nT. This data confirms previous observations on Montgomery Creek to the north, where the sand unit (SAN) was found to contain significant fine magnetite, so where it was eroded away by creeks, total field magnetic intensity tends to be reduced. These magnetic results confirm the interpretation of a north-south paleochannel at about grid 400E to 500E.

As with the magnetic survey, the VLF-EM survey returned very flat results, indicating a lack of significantly conductive rocks or surficial materials in the subsurface (Figure 9). Several weak conductors of uncertain cause were found. It is interesting to note that the two weak conductors on line 500N between about 400E and 475E correspond approximately with the east and west edges of the interpreted paleochannel, possibly being "edge effects" caused by conductive clays.

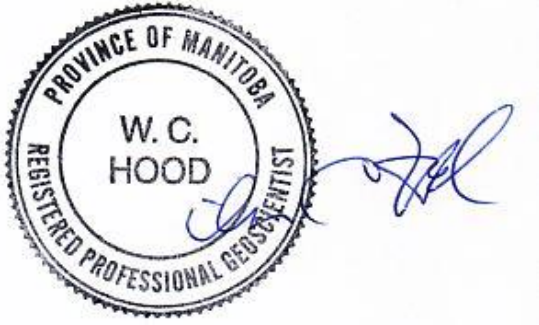
A 1-yard sample of fluvial gravels was sluiced onsite from a hand dug pit at 392400E/6879449N (grid 400E/449N), 50m east of Victoria Creek, and along the west edge (and inside) the arcuate trend of the interpreted paleochannel. This pit was in variable clast- to matrix-supported gravels with about 50% sand, 40% pebbles and 10% cobbles. Clast lithologies were about 50% granite/granodiorite/porphyry, 30% dark grey to black basalt, 10% diorite/gabbro,

and 10% assorted schists. Fluvial gravels were found in this pit down to a depth of 0.7m, where the sediments transitioned to clay, silt and sand. The 1-yard sluiced sample included several cm at the top of these finer sediments. While significant black sands, mainly magnetite, were recovered, only minor gold was found, with 4 nice specks and 40 to 50 fine specks, well below grades necessary for commercial mining. However, the results do indicate that the gravels are fertile for gold in this area, and grades can be expected to improve with depth.

CONCLUSIONS & RECOMMENDATIONS

A small program of flagged grid installation, mapping and sampling of surficial materials, magnetic surveying and VLF-EM surveying was completed over the northwestern halves (right limit) of the MIN 1 and MIN 2 claims during June, 2023. Most of the work area was covered in sand, but fluvial gravels were located in two areas, along Minnesota Creek, and east of nearby Victoria Creek. This work has tentatively identified a north-south paleochannel of Victoria Creek, east of its present course. This paleochannel is well outside the riparian zone of Victoria Creek, and is an attractive target for placer gold. A 1-yard surface sample of fluvial gravels from adjacent to the interpreted paleochannel was sluiced onsite, with four nice specks and 40 to 50 fine specks of gold recovered. While well short of commercial grades, this work indicates that the area is fertile for placer gold. The sluiced sample was taken from surface gravels down to 0.75m, but grades can be expected to improve with depth.

Drill testing of the subsurface gravels is recommended across the area of the interpreted paleochannel.



William C. Hood, P.Ge.
July 10, 2023

CERTIFICATE

For: William C. Hood, P.Ge.

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- 1) I am a graduate of the University of Manitoba (1979) with a B.Sc. (Honours) Degree in Science (Geology) and I have practiced my profession since that time.
- 2) I am a Registered Professional Geoscientist with the Association of Professional Engineers and Geoscientists of Manitoba since 1982.
- 3) I have been employed by Tantalum Mining Corporation (1979-1983), Province of Manitoba Departments of Labour (1992 – 1995) & Energy and Mines (1995 - 1997), and ProAm Exploration Corporation (1997 – 2000), as well as operating my own business as W.C. Hood, Consulting Geologist (1983 – 1992 & 2000 – present).
- 4) I have researched, conducted and supervised a wide range of exploration programs for hydrothermal and placer gold, volcanogenic copper-zinc, magmatic nickel-copper-PGE, pegmatitic tantalum-lithium-caesium, kimberlitic diamonds and various industrial mineral commodities.



William C. Hood, P.Ge.

July 10, 2023

APPENDIX I – FIELD NOTES

Line 400N:

395N/315E; 10 cm moss; into 10 cm of sand; then into 30 cm+ of fluvial gravels.

400N/400E; 20 cm moss & black humus; into 10 cm of brown rusty fine silt; then into permafrost at 30 cm.

400N/425E; 20 cm moss & black humus; into permafrost at 20 cm.

400N/450E; 20 cm moss & black humus; 5 cm light grey ash; into permafrost at 25 cm.

400N/475E; 20 cm moss & black humus; into permafrost at 20 cm.

400N/500E; 20 cm moss & black humus; 5 cm light grey ash; into permafrost at 25 cm.

410N/510E; 20 cm moss & black humus; then into 10 cm+ of tan coloured sand with 10% angular pebbles & cobbles; clasts are 75% dark grey biotite-amphibolite schist & 25% medium-grained granodiorite.

400N/525E; 10 cm white lichen & humus; into 5 cm of ash; then into 20 cm+ of brown sand with 10% pebbles & cobbles; clasts are angular to rounded schist & granodiorite.

400N/625E; 10 cm white lichen & humus; into 20 cm of mixed fine sand & ash; then into 10 cm+ of brown sand.

400N/685E; 10 cm white lichen & humus; then into 30 cm+ of sand; sand is tan coloured where dry & brown coloured where wet.

Line 500N:

500N/300E; sand deposited in bush from spring overflow of Victoria Creek.

490N/330E; section exposed in east bank of Victoria Creek; 10 cm moss; then 10 cm of light brown clay-silt; then 20 cm sand; then 10 cm clay-silt; then into 20 cm+ of fluvial gravels.

500N/375E; 30 cm of brown sphagnum moss; then into 10 cm of black humus; then into permafrost at 40 cm.

500N/400E; 20 cm moss & black humus; then into light brown clay-silt & permafrost.

525N/400E; south edge of shallow bank of rusty brown sand.

500N/425E; 30 cm of hummocky moss; into 20 cm+ of nice brown decomposed sphagnum peat moss.

505N/460E; 30 cm hummocky moss in open fen area; into 20 cm+ of light brown sand with 5% pebbles & cobbles; clasts are 50% mafic schist & 50% light beige-brown granite.

500N/500E; at west edge of thick sand deposit at top of embankment; 10 cm white lichen & humus; into 5 cm of light grey very fine-grained ash; then into 20 cm+ of rusty brown sand.

500N/550E; 20 cm moss & black humus; then into permafrost at 20 cm.

500N/575E; 20 cm moss & black humus; into 10 cm+ of ash; then into permafrost at 30 cm.

500N/625E; 25 cm moss & black humus; into 10 cm brown sand; then into 5 cm ash; then into 10 cm+ of brown sand with 10% pebbles & cobbles; clasts are 50% rounded granodiorite & 50% angular mafic schist.

APPENDIX II – PHOTOGRAPHS



Photo 1. Looking northeast at D. Hood at Post #2, MIN 2, standing on top of embankment in sand (unit SAN), north of Minnesota Creek.



Photo 2. Looking southwest at W. Hood in old pit in sand (unit SAN) just north of Minnesota Creek on claim MIN 1.



Photo 3. Sand (unit SAN) at L400N/680E.



Photo 4. Looking southwest at W. Hood sampling fluvial gravels (unit FG) just north of Minnesota Creek on MIN 2 claim.



Photo 5. Looking east at section of modern stream sediments (unit MSS) with clay, silt and sand sediments overlying fluvial gravels (unit FG) along the east bank of Victoria Creek, just south of L500N.



Photo 6. Looking southwest at W. Hood examining dacite bedrock on southeast side of Minnesota Creek near boundary between MIN 1 and MIN 2 claims.



Photo 7. D. Hood test sluicing gravels onsite from unit FG between lines 400N and 500N, about 50m east of Victoria Creek.