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2024 Work Assessment Report

Claim 852744
(Provincial Grid Cell 31M04F040)

Best Township
(Provincial Grid Group 31M04F)

Territorial District of Nipissing Ontario

Sudbury Mining Division

Prepared By:

Ed Shynkorenko
Cochrane, Ontario
(License M-25405 / MAAP 5932)

June 16, 2024

Forward:

This report builds upon what has been previously documented of the mineral potential on lands situated southwesterly of the former "Northland Pyrite Mine" and northwesterly of the "Cuniptau Silica Deposit" / "Danlou Gold Occurrence". This general area of Best Township is known to host promising molybdenum, copper and nickel occurrences.

The subject property is comprised of mining claim 852744 situated in Best Township, Sudbury Mining Division. The subject property is also part of a contiguous block of 8 claims, all of which were acquired by the author, Ed Shynkorenko, in 2023 (Client # 194158).

The 2024 "grass roots" field work undertaken focused on further ascertaining the molybdenum-copper-nickel potential discovered during past drilling and trenching activities on a portion of the subject property lying immediately south of Granite Lake.

On May 12th 2024 the subject property was prospected by the author Ed Shynkorenko (License M-25405 / MAAP 5932), and fellow prospector Peter Hermeston (Lic.1003623 / MAAP No. 6559).

The field work detailed in this document, being hand sampling and mapping, accumulated a total of 2 man-days.

The report was prepared by Ed Shynkorenko. Stations quoted in this report, and shown on the work compilation plan, correspond to the assayed sample "tag" numbers. All required illustrations, tables, maps, sample location photographs and required receipts are contained separately within the Appendices of this document, and all Appendices have been submitted separately in pdf format.

Expenditure rates for work, transportation, etc., were derived from provincial government and industry standards.

As required by staff of the Geo-Assessment Unit, gas receipts for proof of travel have been included in this submission. However, only expenditures based on the current accepted rate of $0.68 per kilometre are being claimed.

Table of Contents

Appendices (*submitted separately-electronically in* pdf format)

Introduction/History:

Since the early 1900's the lands within Best Township have been prospected for gold, silver, copper and other minerals.

Approximately 1.7 kilometres northeasterly of the subject property the "Northland Pyrite Mine" deposit was discovered in 1903, and records indicate that a 300-foot shaft was sunk, with levels developed at 100, 175, and 275 feet along with open cuts. The mine produced 76,067,050 pounds of ore during the years 1906 to 1911. Throughout the 1950's, 60's, and early 90's, several geophysical surveys and diamond drilling efforts occurred on the property. Tenure to the property eventually expired circa 2009.

Approximately 850 metres southeasterly of the subject property the "Cuniptau Silica Deposit", a rather high-grade deposit, supplied flux material to the "Cuniptau Mine" situated near Temagami Ontario. The "Danlou Gold Occurrence", which is located along the southern edge of the said silica enrichment zone, had been modestly drilled by Danlou Mines in the early 1960's with less than favorable results.

During the late 1960's to early 1970's C. Mortimer undertook trenching and drilling projects, partially on what is now the subject property. Mortimer's efforts confirmed high grades of molybdenum (molybdenite and powellite) at near surface depths.

From the second half of 1973 continuing to the mid-1990's the area was subject to the "Temagami Land Caution". With the lifting of the land caution the subject property and area was again staked. An online search of assessment reports filed for this general area over the decades revealed that since 1972 no recorded attempt toward further ascertaining the molybdenum potential of the actual subject property has been undertaken to date.

List of Illustrations:

All required maps, photos, tables and sketches referred to in this document are contained within the attached Appendices, all of which are submitted separately in pdf format.

Property Ownership, Description and Location:

The subject property is located approximately 13 kilometres north of Temagami, Ontario. The property is comprised of claim 852744, being part of 8 contiguous claims all situated in Best Township, Sudbury Mining Division. The subject property is currently held 100% by prospector Ed Shynkorenko *(see Appendix A "Location / Key Map" and Appendix B "Claim Map ")*.*****

Appendix B** ***includes a map of subject property and contiguous claims, title abstract for subject claim, and a list of said contiguous claims.

Access:

Access to the property is gained by traveling approximately 12 kilometres north of Temagami Ontario via Highway 11, then exiting west from Highway 11 onto the municipal "Cemetery Road" for roughly 510 metres until the said road intersects the TransCanada Pipeline corridor. Thence, 1.6 kilometres northward along the said corridor to the subject property. Access to the subject property is also gained via boat for approximately 1.5 kilometres across Granite Lake (*see Appendix C "Access Map").*

"Northern portion of Subject Property is within Granite Lake"

Regional and Property Geology*:*

Situated within the Abitibi Greenstone Belt, the subject property geology is mainly comprised of massive to pillowed flows of mafic to intermediate metavolcanic rock intrusions. With regards to the township of Best generally, and as previously described, *"The bedrock exposed in the area is Precambrian in age. The Archean rocks consist of Keewatin volcanics, granitic rocks, mafic and ultramafic intrusive rocks, and Proterozoic rocks of Huronian Cobalt Group sediments and Keweenawan intrusive rocks",* (Open File Report No. 5016, Thomson 1968).

With regards to mineralization found within portions of the now subject property, in his 1968 report Thomson had indicated that, *"The molybdenite occurs (1) in quartz veinlets up to an inch wide traversing Keewatin volcanics and altered mafic intrusive rocks; (2) as films about 1/40 inch thick and over about 3 square inches along slips in Keewatin volcanics and altered mafic intrusive rocks; (3) in red feldspathic veinlets accompanied by chalcopyrite and pyrite in minor amount. Axinite is present in one such veinlet on the west side of the gas pipeline about 130 feet due south of the northeast corner of claim T.31704. The feldspathic veinlets contain epidote and in places small amounts of white calcite. In some places the molybdenite is accompanied by powellite…".*

Regional and Property Geology continued:

A significant portion of the subject property is covered by the waters of Granite Lake. Topography conditions are commonly shared amongst the outcrops noted. Elevations on the property range from 300 metres to 330 metres above sea level. Exposed outcrops are for the most part modestly sloped. On average soils consist of an organic "A" horizon covering coarse, loamy-sand, gravel and isolated pockets of clay. *(see Appendix D "Regional Geology Map").*

The subject property is situated within a traditional Great Lakes St. Lawrence Forest setting. Forest cover includes cedar, black spruce, black ash, and tamarack in the lower areas changing to white spruce, white pine, red pine, balsam fir, trembling aspen, and white birch over the more elevated areas of the property. The property also contains a small portion of an unnamed lake which drains northward into Granite Lake, which in turn, drains into the Net Lake system.

"A now grown in trench established circa 1969"

Work Program:

Rationale:

The objective of the field activities reported in this particular document was to locate and sample a small previously charted circa 1969 trench. Also, to locate a previous drill site and exposed outcrops displaying mineralization in order to expand upon what is already known of the subject property's mineral potential, in particular the molybdenum-copper-nickel components.

Daily Log:

On May 12th 2024, the subject property was prospected by Ed Shynkorenko and Peter Hermeston, working as a two-man team (*for age and health concerns*), a total of 1.3 kilometres (land portion) were traversed while on the property. The targeted shallow (1.4 metres width x 3.0 metres length x 0.5 metre average depth) historical trench was located and two rock samples (TE0224 & TE0324) taken. An additional sample (TE0124), was taken from a nearby rock outcrop of interest.

Daily Log continued….

Routes traversed and outcrops inspected were mapped and locations of the assayed sample locations were recorded in NAD 83 using a handheld Garmin E-Trex 10 GPS device *(see Appendix E "Work Compilation Plan").* Assayed sample locations were also photographed using a digital camera with date coding, being a Fuji XP 140 model *(see Appendix F "Sample Location Photographs").*

The assayed results of the samples taken are provided *(see Appendix G "Assay Results").* Required receipts and expenditure rate rationales are provided as well (see *Appendix H "Required Receipts & Expenditure Rate Rationales").*

For assay receipts (see *Appendix H-1"Assay Receipt").*

Conclusions:

The targeted trench was located. However, assay results from the two loose rock samples taken from within the said trench did not find a strong presence of molybdenum, copper or nickel.

The singular sample (TE0124). taken at the likely nearby location of the sought drill site did provide assay results of **P** at 870 ppm, along with **Ce** at 45 ppm, **La** at 22.4 ppm and **Y** at 9.66 ppm. Although these are low values for rare earth elements, the elevated presence of phosphorous brings the possibility of better results for such elements in future sampling efforts.

Recommendations:

A more comprehensive sampling program should be undertaken on the subject property, including an effort to hand strip sections of the mapped outcrops encountered so far. The now located targeted trench, which had provided high molybdenum results in the late 1960's, should be grubbed out and more samples taken. All future assayed samples should include testing for all rare earth elements.

Author Qualifications:

The author is an honour graduate of the Sault College of Applied Arts and Technology forestry program (1980), Sault Ste. Marie, Ontario, and was a longtime employee with the Ontario Ministry of Natural Resources. Throughout the past 43 years he has been exposed to numerous mining projects (Hemlo, Detour Lake, and Agrium). Prospecting remains his life-long hobby.

Communications (Direct & Indirect):

Peter Hermeston, fellow prospector, North Bay, Ontario.
Jason Jurynec, fellow prospector, Cochrane, Ontario.

References:

OGS Report 5439 "Industrial Minerals of Northern Ontario-Supplement 2" (Vos and Smith 1983).

"A Technical Report on the Granite-James Lake Property" (Chitaroni 1993), MNDM&F file 31M04NE0010 W94478.00016 Best.

"Geology Adjacent to Highway 11 in Best Township and the South Part of Gilles Limit Township Districts of Timiskaming and Nipissing" (Thomson 1968) Open File Report No. 5016.

"Drill Report No. 15, Best Township" (A. Hopkins & C. Mortimer 1972), File No. 31M04NE0048 15 Best.

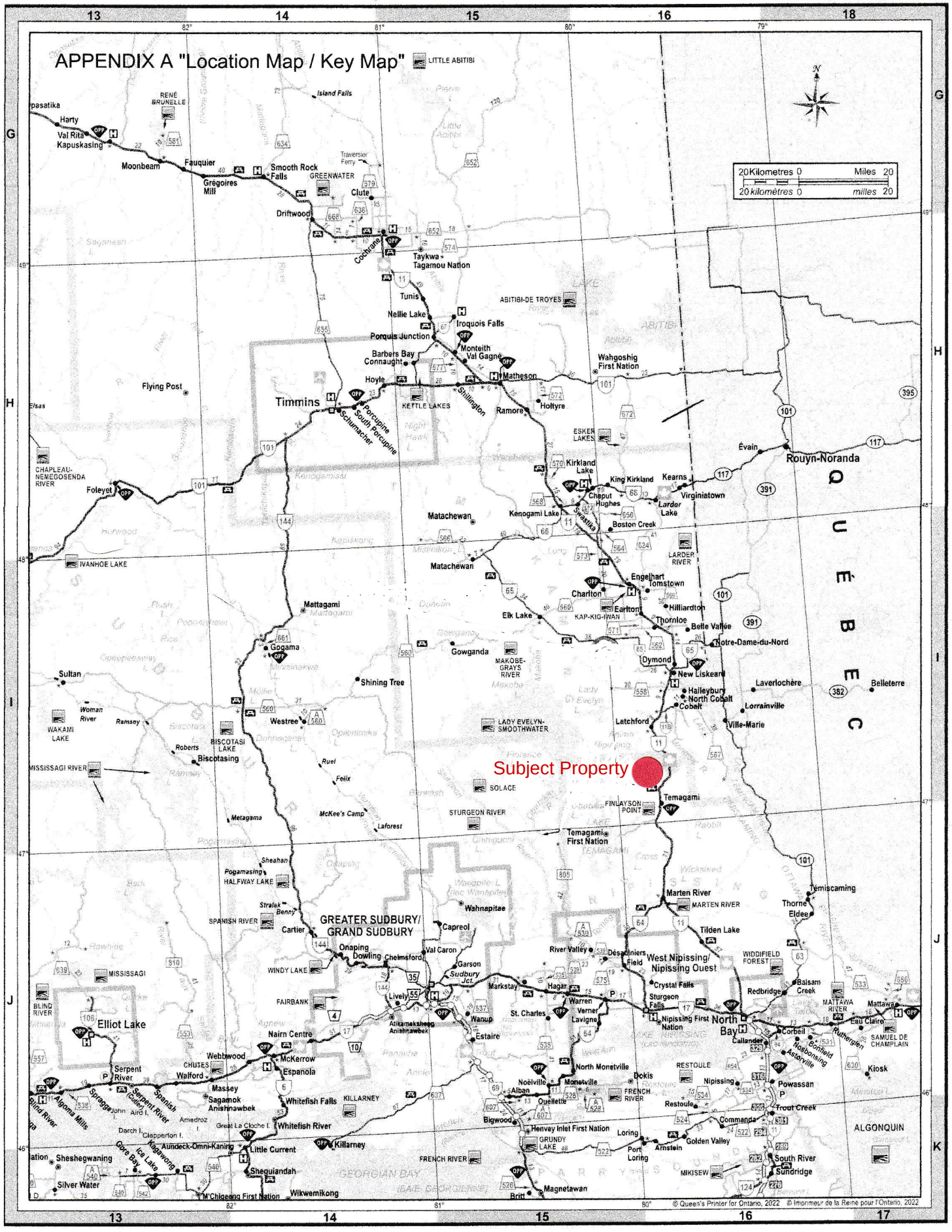
"Precambrian Geology, Geological Compilation of the Cobalt-Temagami Area, Abitibi Greenstone Belt" Ontario Geological Map P.3581 (2006).

Geology Ontario "Historical Claim Maps" website (Best Twp.).

APPENDICES

(submitted separately-electronically in pdf format)

Appendix A	"Location Map / Key Map"
Appendix B	"Claim Map" *(includes* a *map of subject property and contiguous claims, title abstract for subject claim, and a list of said contiguous claims)*
Appendix C	"Access Map"
Appendix D	"Regional Geology Map*" (expandable)*
Appendix E	"Work Compilation Plan" *(expandable)*
Appendix F	"Sample Location Photographs" *(expandable)*
Appendix G	"Assay Results"
Appendix H	"Required Receipts & Expenditure Rate Rationales" *(proof of travel receipts and rationale for rates of labour, etc.)*
Appendix H-1	"Assay Receipt"


APPENDIX A "Location Map / Key Map"
LITTLE ABITIBI
Subject Property
Timmins
GREATER SUDBURY/ GRAND SUDBURY
North Bay
Elliot Lake
Kirkland Lake
Rouyn-Noranda
Temagami
Cochrane
Iroquois Falls
Matheson
Kapuskasing
Hearst
Moosonee
Moose Factory
Attawapiskat
Fort Albany
Kashechewan
Peawanuck
Winisk
Sandy Lake
Pikangikum
Red Lake
Ear Falls
Dryden
Sioux Lookout
Fort Hope
Marathon
Geraldton
Longlac
Nakina
Armstrong
Thunder Bay
Kenora
Fort Frances
Atikokan
Ignace
Dryden
Sioux Lookout
Pickle Lake
Savant Lake
Wawa
Chapleau
Foleyet
Matachewan
Kenogami Lake
Gogama
Westree
Biscotasing
Mattagami
Elk Lake
Charlton
Earlton
Hilliardton
Thornloe
Belle Vallee
Notre-Dame-du-Nord
Dymond
New Liskeard
Haileybury
North Cobalt
Cobalt
Latchford
Ville-Marie
Laverlochère
Belleterre
Lorrainville
Temagami
Marten River
Temiscaming
Thorne
Eldee
Tilden Lake
West Nipissing/ Nipissing Ouest
Crystal Falls
Sturgeon Falls
Nipissing First Nation
Redbridge
Balsam Creek
Mattawa
Corbeil
Callander
Powassan
Trout Creek
Commanda
Golden Valley
Arnstein
Loring
Port Loring
Henvey Inlet First Nation
Magnetawan
Britt
South River
Sundridge
Burk's Falls
Kearns
Virginiatown
Évain
Cochrane
Timmins
Kapuskasing
Hearst
Moosonee
Moose Factory
Attawapiskat
Fort Albany
Kashechewan
Peawanuck
Winisk
Sandy Lake
Pikangikum
Red Lake
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Dryden
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Fort Hope
Marathon
Geraldton
Longlac
Nakina
Armstrong
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Callander
Powassan
Trout Creek
Commanda
Golden Valley
Arnstein
Loring
Port Loring
Henvey Inlet First Nation
Magnetawan
Britt
South River
Sundridge
Burk's Falls
Kearns
Virginiatown
Évain
Rouyn-Noranda
Cochrane
Timmins
Kapuskasing
Hearst
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South River
Sundridge
Burk's Falls
Kearns
Virginiatown
Évain
Rouyn-Noranda
20 Kilometres 0 Miles 20
20 kilomètres 0 milles 20
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Ontario

Ministry of Mines (MINES)

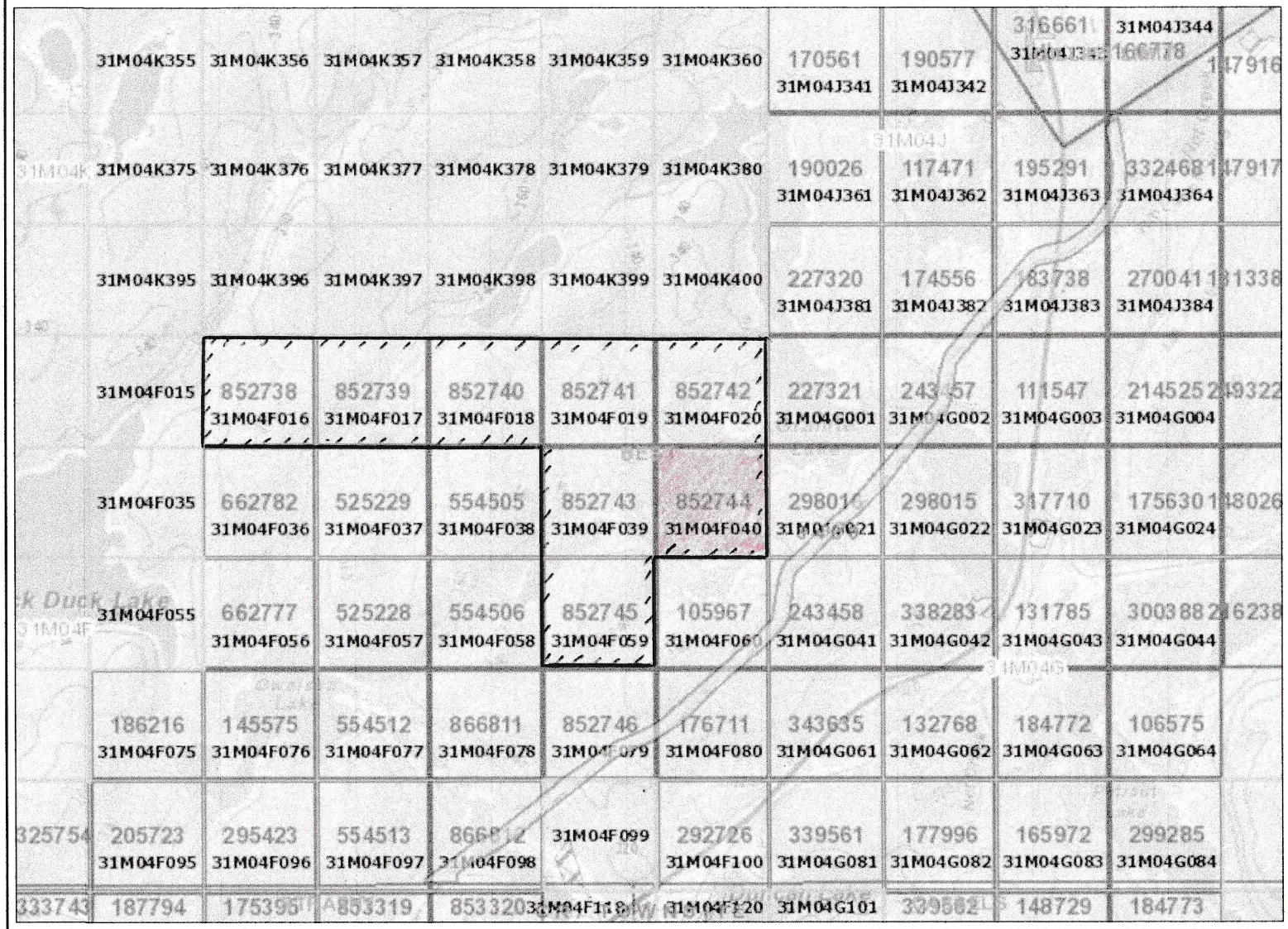
MLAS Map Viewer

APPENDIX "B"

Notes:

Subject Property

Contiguous Claims



Legend

Provincial Grid Cell
- Available
- Pending
- Unavailable

Mining Claim
- Mining Claim
- Boundary Claim

Alienation
- Withdrawal
- Notice

MINES Administrative Boundaries
- MINES Townships and Areas
- Geographic Lot Fabric
- UTM Grid 1K
- UTM Grid 10K
- Mining Division
- Mineral Exploration and Development Region
- CLUPA Protected Area - Far North
- Resident Geologist District
- Federal Land Other
- Native Reserves
- AMIS Sites
- AMIS Features
- Drill Hole
- Mineral Occurrences

MLAS Mining History
- Withdrawal - History
- Notice - History
- Mining Claim - History
- Mining Land Tenure - History
- Legacy Claim

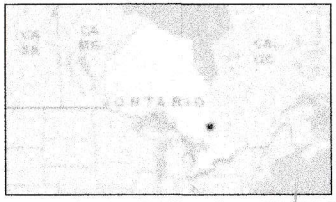
Provincial Grid
- Provincial Grid 250K
- Provincial Grid 50K
- Provincial Grid Group

Land Tenure
- Surface Rights
- Mining Rights
- Mining and Surface Rights
- Order-in-Council

0 1.25 km

N

Projection: Web Mercator



Ontario Ministry of Mines | Ministère des Mines

Claim Abstract
852744
Status: Active

Cell Claim Type:	Single Cell	Due Date:	14-Aug-2025	Total Reserve:	0
Special Status:	N	Total Work:	0	Assessment Assmnt:	50000
Number of Cells:	1	Work Required:	400	Consultation Reserve:	0
Registration Date:	14-Aug-2023	Total Payment In Place:	0	Exploration Reserve:	0
Anniversary Date:	14-Aug-2025	Last Paid in Place Date:			
UTM Zone:	17	Mining Division:	Sudbury		
MNR District:	North Bay	Township Name:	BEST		

Cell ID(s)	31M04F040

Client Number	Recorded Holder(s)	Percent
194158	EDWARD SHYNKORENKO	100

Claim Abstract
852744
Status: Active

Event #	Recorded By	Event Description	Abstract Wording	Event Date
1726493	MLAS System internal	Mining claim acquisition notification handling	Confirmation of Registration Not Required	14-Aug-2023
1726489	EDWARD SHYNKOREN	Register a Mining Claim	Registered By EDWARD SHYNKORENKO (194158)	14-Aug-2023

Reservations under the Mining Act may apply

Note: Status of Claim is based on information currently on record.

List of Contiguous Claims

852738, 852739, 852740, 852741, 852742, 852743, **852744*** 852745

***Subject Property Claim 852744**

Ontario

Ministry of Mines (MINES)

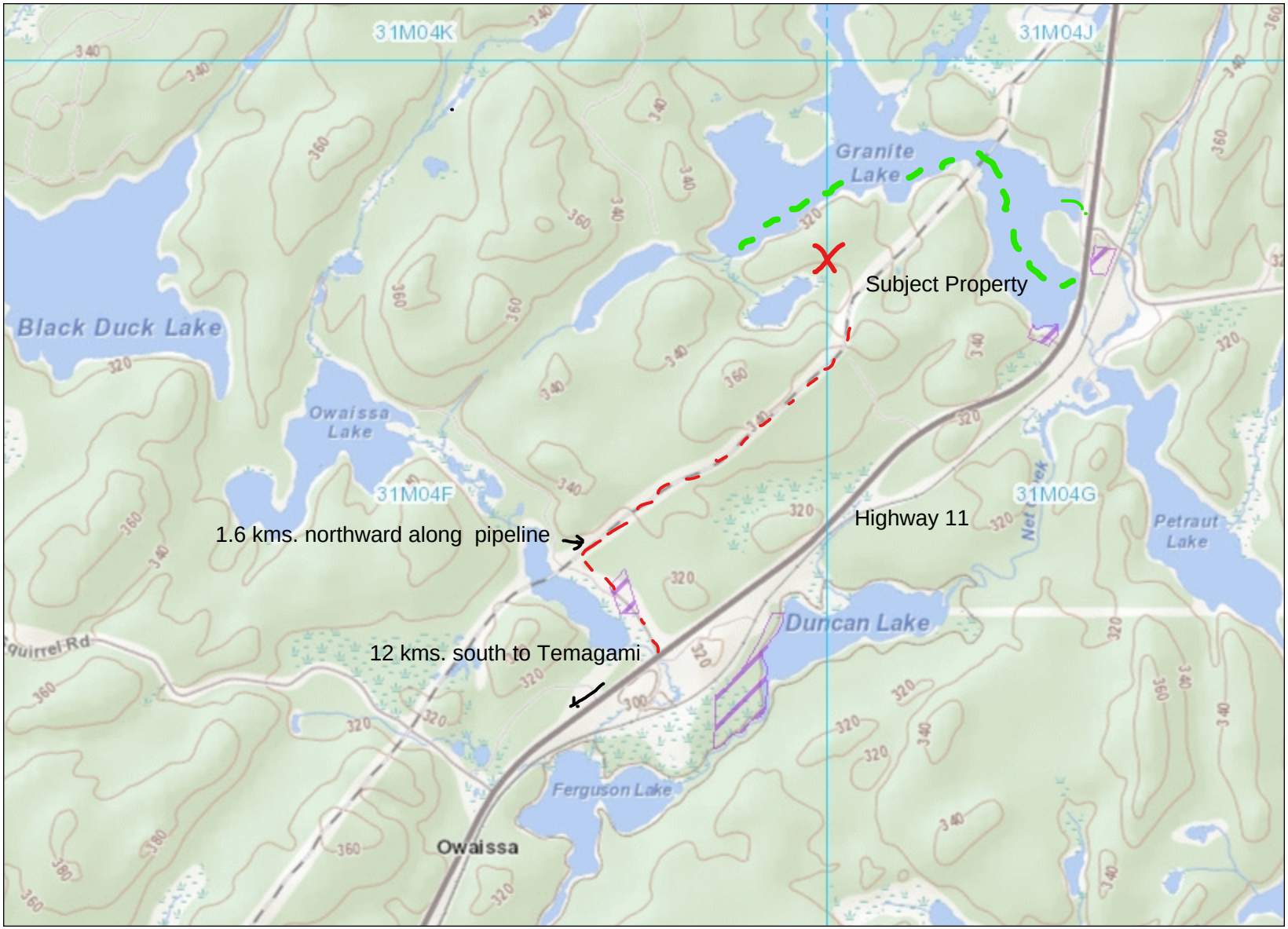
MLAS Map Viewer

APPENDIX "C" Access Map

Notes:

Land Route

Water Route



Legend

Provincial Grid Cell
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- Unavailable

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- Mining Claim
- Boundary Claim

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- Withdrawal
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- Mining Land Tenure - History
- Legacy Claim

Provincial Grid
- Provincial Grid 250K
- Provincial Grid 50K
- Provincial Grid Group

Land Tenure
- Surface Rights
- Mining Rights
- Mining and Surface Rights
- Order-in-Council

Those wishing to register mining claims should consult with the Provincial Mining Recorders' Office of the Ministry of Mines (MINES) for additional information on the status of the lands shown hereon. This map is not intended for navigational, survey, or land title determination purposes as the information shown on this map is compiled from various sources. Completeness and accuracy are not guaranteed. Additional information may also be obtained through the local Land Titles or Registry Office, or the Ministry of Natural Resources and Forestry. The information shown is derived from digital data available in the Provincial Mining Recorders' Office at the time of downloading from the Ministry of Mines (MINES) web site.

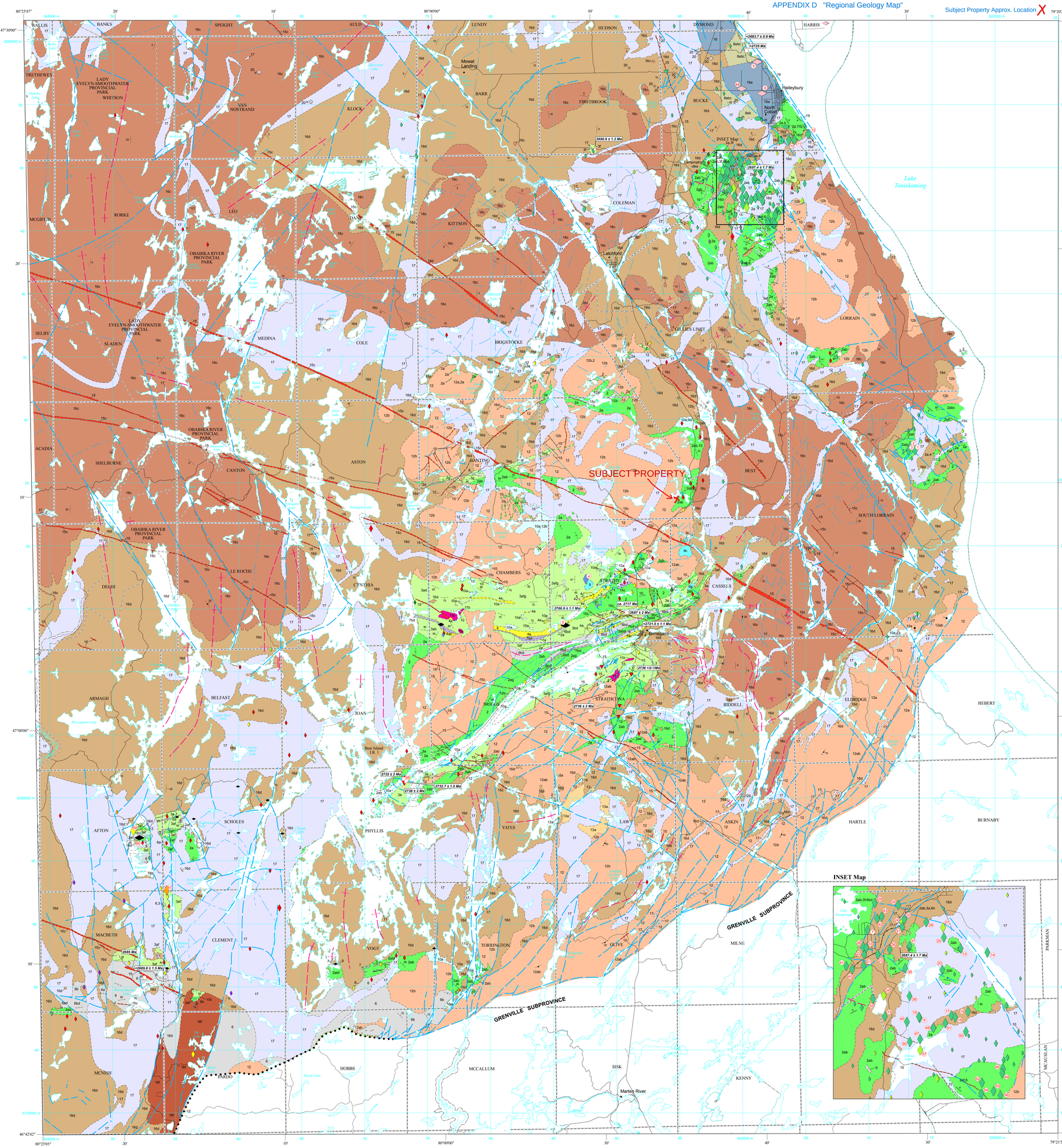
0 1.25 km

N

Projection: Web Mercator

APPENDIX D "Regional Geology Map"

Subject Property Approx. Location



LEGEND[abcd]

PHANEROZOIC

CENOZOIC

QUATERNARY

RECENT

Lake, stream and wetland deposits

PLEISTOCENE

Glacial, glaciofluvial and glaciolacustrine deposits: sand, gravel, clay, till

UNCONFORMITY

MESOZOIC

JURASSIC

20 **Kimberlite**

PALEOZOIC

SILURIAN

19 **Sedimentary Rocks**
19a Thornloe Formation: dolostone, limestone, minor sandstone
19b Earlton Formation: limestone, dolostone, shale
19c Waibi Group (unsubdivided): dolostone, shale

ORDOVICIAN

18 **Sedimentary Rocks**
18a Liskeard Group (unsubdivided): limestone, shale

INTRUSIVE CONTACT

PRECAMBRIAN

PROTEROZOIC

NIPISSING

17 **Mafic Intrusive Rocks:** diabase, granophyre

HURONIAN SUPERGROUP

16 **Sedimentary Rocks**

16a Bar River Formation[e]
16b Gordon Lake Formation[e]
16c Lorrain Formation
16d Gowganda Formation
16f Mississagi Formation

16 **Diabase Dikes**
15a Matachewan (2452 Ma) (NW)
15b Biscotasing (2167 Ma) (ENE)
15c Sudbury (1238 Ma) (WNW)
15d Abitibi (1140 Ma) (ENE)

INTRUSIVE CONTACT

ARCHEAN

NEOARCHEAN

13 **Alkalic Intrusive Suite**
13a Syenite, monzonite, granite
13b Diorite, syenodiorite, monzogabbro, hornblendite
13c Schistose textured

12 **Felsic to Intermediate Intrusive Suite**
12a Tonalite, granodiorite, trondhjemite
12b Granite, quartz monzodiorite, quartz diorite
12c Schistose textured

11 **Porphyry Suite**
11a Porphyry
11b Quartz and/or feldspar porphyry
11d Tonalite, granodiorite

10 **Mafic Intrusive Rocks**
10a Diorite, gabbro, metagabbro
10b Porphyritic
10c Anorthositic gabbro, leucogabbro
10d Granophyre

9 **Ultramafic Intrusive Rocks**
9a Peridotite, pyroxenite
9c Schistose textured

INTRUSIVE CONTACT

8 **Timiskaming-Type Clastic Metasedimentary Rocks**
8a Arenite
8b Wacke
8c Conglomerate
8d Mudstone, siltstone
8e Schistose textured

UNCONFORMITY

7 **Chemical Metasedimentary Rocks**
7a Iron formation
7b Oxide facies
7c Sulphide facies
7d Silicate facies, chert
7e Graphite facies

6 **Clastic Metasedimentary Rocks**
6a Arenite
6b Wacke
6c Conglomerate
6d Mudstone, siltstone
6f Schistose textured

5 **Alkalic and Subalkalic Metavolcanic Rocks/Intrusions (Unconformable Timiskaming-Type)**

Alkalic and Subalkalic Metavolcanic Rocks/Intrusions
5a Massive flows
5b Porphyritic flows
5c Tuff
5e Schistose textured

Subalkalic Metavolcanic Rocks — Intermediate to Felsic Reworked Metavolcanic Rocks
5f Wacke, tuff
5g Lapilli tuff, lapillistone
5h Tuff breccia, pyroclastic breccia

Intermediate to Felsic Metavolcanic Rocks
5i Tuff, lapilli tuff, lapillistone
5j Pyroclastic breccia, flows, autoclastic breccia

4 **Felsic (to Intermediate) Metavolcanic Rocks/Intrusions**
4a Massive flows
4b Tuff, lapilli tuff
4c Tuff breccia, pyroclastic breccia
4d Porphyritic
4e Spherulitic
4f Schistose textured
4C Calc-alkalic
4T Tholeiite

3 **Intermediate (to Felsic) Metavolcanic Rocks/Intrusions**
3a Massive flows
3b Pillowed flows
3c Variolitic flows
3d Hyaloclastite, flow breccia
3e Amygdaloidal flows
3f Tuff, lapilli tuff
3g Tuff breccia, pyroclastic breccia
3h Schistose textured
3C Calc-alkalic
3T Tholeiite

2 **Mafic (to Intermediate) Metavolcanic Rocks/Intrusions**
2a Massive flows
2b Pillowed flows
2c Variolitic flows
2d Hyaloclastite, flow breccia
2e Amygdaloidal flows
2f Tuff, lapilli tuff
2g Tuff breccia, pyroclastic breccia
2h Schistose textured
2C Calc-alkalic
2F High-iron tholeiite
2H High-magnesium tholeiite
2T Tholeiite

1 **Ultramafic (to Mafic) Metavolcanic Rocks/Intrusions**
1a Massive flows/intrusions
1b Polysutured flows
1c Spinifex-textured flows
1d Pillowed flows
1f Schistose textured
1B Basaltic komatiite
1K Komatiite
1O Olivine-spinifex

[a] This is a compilation legend.
[b] Rock codes preceded by "G" are based on interpretation from aeromagnetic maps; those preceded by "D" are based on interpretation from drill-hole data.
[c] Rock codes designated with a "/" (e.g., 2/3) indicate the lithology may contain either rock type and the first number code is considered to be more likely.
[d] Rocks are subdivided lithologically and the order does not imply age relationships within or among groups.
[e] Rock codes refer to different formations on Map P.3565.

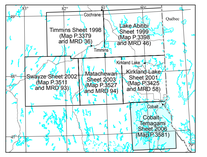
THE ABITIBI SUBPROVINCE

The Abitibi Subprovince is an 800 by 300 km Archean "granite-greenstone" domain situated along the southern margin of the Superior Province. It is dominated by supracrustal and granitoid rocks with a range of ages from 2.75 to 2.67 Ga (Jackson and Fyon 1991). Historically, the Abitibi greenstone belt was considered to be that portion of the Abitibi Subprovince extending to the western margin of the extensive granitoid complexes west of Timmins. New mapping and geochronological evidence (Heather et al. 1995) shows that the Swayze greenstone belt contains many of the structures and stratigraphic ages typical of the Abitibi belt in the Timmins–Kirkland Lake area and is now interpreted to represent a deeper erosional level of a once-continuous Abitibi greenstone belt extending to the Kapuskasing Structural Zone.

The Abitibi greenstone belt is one of the world's largest, best preserved and most economically productive greenstone belts in the world.

The Cobalt–Temagami map sheet covers the area from the southern boundary of Kirkland Lake south to the Grenville Front and from the Québec border west to approximately one township west of Lake Temagami and Lady Evelyn Lake. Rocks are classified on the basis of their dominant lithology using textures, structures and both approximate and specific compositions to refine the classification. Geological information has been primarily compiled from previous mapping. New interpretations of the extent of lithologic units, specifically in the areas lacking outcrop, have greatly benefited from the use of the reprocessed geophysical data for this area (Gupta 1995, 1996). As well, geochemical data have allowed for the further subdivision of the metavolcanic rocks.

Within the confines of this map lies the classical Cobalt silver mining camp with numerous past producers of silver, cobalt and associated elements. Other past producers include base and precious metals, iron ore and industrial minerals such as limestone, dolostone and marble. At present only limestone is being commercially quarried.



Location of 1:100 000 scale map sheets and corresponding digital data releases (Miscellaneous Release—Data) cited in "REFERENCES".

ABBREVIATIONS

Ag	silver	Mo	molybdenum
Au	gold	Ni	nickel
Bi	bismuth	Pb	lead
Cd	cadmium	Pd	palladium
Co	cobalt	S	sulphur
Cu	copper	Sb	antimony
Fe	iron	U	uranium
		Zn	zinc

SYMBOLS

- Geological contact
- Fault, trend only, ball on downthrown side
- Lineament
- Normal fault, inclined, ball on downthrown side
- Fault, (inclined, trend only)
- Anticline
- Syncline
- Crossbedding, with facing, inclined
- Flow top, with facing, inclined
- Graded bedding, with facing (dip unknown, inclined)
- Sedimentary bedding, with facing, (dip unknown, inclined)
- Pillowed flow, with facing (dip unknown, inclined)
- Bedding, unsubdivided, no facing (dip unknown, inclined, vertical)
- Compositional layering, unknown generation, type B (vertical, trend)
- Mineral foliation, unknown generation (inclined, vertical)
- Joint, inclined
- Schistosity (inclined, vertical)
- Colour boundary

Geochronology sample

- Intrusive
- Sedimentary
- Volcanic

Mineral Deposit Type

- Felsic to intermediate intrusion-associated deposits
- Alkalic intrusion-associated deposits
- Mafic to ultramafic volcanic/intrusion-associated deposits
- Sediment associated deposits
- Vein/replacement deposits
- Volcanic-associated deposits
- Unknown deposit type

Mineral Deposit Status

- Mine
- Prospect
- Occurrence

Mineral Deposit Commodity

- Ag ± (Co, Cu, Ni, Pb)
- Au ± (Ag, Cu, Pb, S, U)
- Co ± (Ag, asbestos, Bi, Cd, Cu, Ni, Sb)
- Cu ± (Ag, Au, diamond, Mo, Ni, Pb, S, U, Zn)
- Diamond
- Dolostone ± (limestone, marble)
- Fe ± (Au, Cu, U)
- Mo ± (Bi)
- Ni
- Pb ± (Ag)
- Silica
- Sulphur
- U
- Zn ± (Ag, Cu, Pb)
- Kimberlite

Classifications Example

diamond symbol = vein/replacement deposits
light green colour = silver
size = mineral deposit status (see above)

Producing and Past-Producing Mines

1. Wettlaufer
2. Keeley
3. Lorrain
4. Kanichee
5. Sherman
6. Bailey
7. Conlagas
8. Gagne, A.
9. Moore Creek
10. Harrison-Hibbert
11. Green-Meehan
12. Agnico
13. King Edward
14. Cross Lake
15. Savage
16. Penn-Canadian
17. Crown Reserve
18. Kerr Lake
19. Drummond
20. Nova Scotia
21. Mckinley
22. Cobalt Townsite
23. Cobalt Lake
24. Right of Way
25. Colonial
26. Buffalo
27. Violet
28. O'Brien
29. Hudson Bay
30. Chambers-Ferland NW
31. Chambers
32. La Rose
33. City of Cobalt
34. Seneca-Superior
35. Nipissing 406
36. Nipissing 407
37. Nipissing 401 Parcel 1
38. Nipissing 404
39. Peterson Lake
40. Princess
41. Silver Queen
42. Trethewey
43. Nipissing 400
44. Overton
45. Silverfields
46. Beaver
47. University
48. Foster
49. Timiskaming
50. Hargrave
51. Lawson
52. Brady Lake
53. Cobalt Lode
54. Christopher
55. Cleopatra
56. Beaver-Temiskaming
57. Giroux Lake
58. Temagami
59. New Golden Rose
60. Emerald South
61. Leger Quartz Occurrence

Ontario

Ontario Geological Survey

MAP P.3581

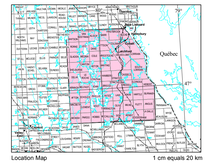
PRECAMBRIAN GEOLOGY

GEOLOGICAL COMPILATION OF THE COBALT–TEMAGAMI AREA, ABITIBI GREENSTONE BELT

Scale 1:100 000

2000 m 0 2 4 km

NTS Reference: 31 M/3,4,5,6,12; 31 L/11,12,13,14; 41 I/9,16; 41 P/1,8,9



This geological compilation of the Cobalt–Temagami area is the sixth of a series of 1:100 000 maps and GIS data sets of the Abitibi Subprovince in Ontario being compiled over the next few years.

SOURCES OF INFORMATION

This geological map of the Cobalt–Temagami area was compiled from published maps and reports of the Ontario Geological Survey and the Geological Survey of Canada. In addition, information from unpublished reports and maps on file with the Ontario Geological Survey, university theses, papers in professional journals, geophysical maps and satellite images were incorporated.

Geological interpretation was further enhanced by utilizing the Earth Resources and Land Information System (ERLIS) databases such as the Assessment File Resource Inventory (AFRI), the Drill Hole (DH) database, the Lithogeochemical (LGC) database and the Mineral Deposit Inventory (MDI) database. Other data sets used include satellite imagery, including Landsat Thematic Mapper Images and RADARSAT radar images; and Digital Elevation Model (DEM) produced by the Ministry of Natural Resources, Ontario.

Magnetic declination at the center of the map area approximately 11°24W in 2006.

REFERENCES

Ayer, J., Amelin, Y., Corfu, F., Kamo, S., Ketchum, J., Kwok, K. and Trowell, N. 2002. Evolution of the southern Abitibi greenstone belt based on U-Pb geochronology: autochthonous volcanic construction followed by plutonism, regional deformation and sedimentation: Precambrian Research, v.115, p.63-95.

Ayer, J.A., Amelin, Y., Corfu, F., Kamo, S., Ketchum, J.W.F. and Trowell, N. 2001. Autochthonous evolution of the southern Abitibi greenstone belt, Canada: in Fourth International Archaean Symposium, extended Abstracts, AGSO-Australian Geological Survey Organisation, Canberra, Australia, p.276-281.

Ayer, J.A., Barr, E., Bleeker, W., Creaser, R.A., Hall, G., Ketchum, J.W.F., Powers, D., Saller, B., Still, A. and Trowell, N.F. 2003. Discover Abitibi: New geochronological results from the Timmins area: implications for the timing of late-tectonic stratigraphy, magmatism and gold mineralization: in Summary of Field Work and Other Activities 2003, Ontario Geological Survey, Open File Report 6120, p.33-1 to 33-11.

Ayer, J.A., Berger, B.R., Hall, L.A.F., Houle, M.G., Johns, G.W., Josey, S., Madon, Z., Rainford, D., Trowell, N.F. and Vaillancourt, C. 2005. Geological compilation of the central Abitibi greenstone belt: Kapuskasing Structural Zone to the Québec border; Ontario Geological Survey, Preliminary Map P.3565, scale 1:250 000.

Ayer, J., Berger, B., Johns, G., Trowell, N., Born, P. and Mueller, W. 1999. Late Archean rock types and controls on gold mineralization in the southern Abitibi greenstone belt of Ontario; Geological Association of Canada–Mineralogical Association of Canada, Joint Annual Meeting, Sudbury 1999, Field Trip B3 Guidebook, 73p.

Ayer, J.A., Berger, B.R. and Trowell, N.F. 1999. Geological compilation of the Lake Abitibi area, Abitibi greenstone belt; Ontario Geological Survey, Preliminary Map P.3398, scale 1:100 000.

Ayer, J.A., Ketchum, J.W.F. and Trowell, N.F. 2002. New geochronological and neodymium isotopic results from the Abitibi greenstone belt, with emphasis on the timing and the tectonic implications of Neoarchean sedimentation and volcanism: in Summary of Field Work and Other Activities 2002, Ontario Geological Survey, Open File Report 6100, p.5-1 to 5-15.

Ayer, J.A. and Trowell, N.F. 1995. Geological compilation of the Abitibi greenstone belt, Ontario: in Summary of Field Work and Other Activities 1995, Ontario Geological Survey, Miscellaneous Paper 164, p.5-8.

Ayer, J.A. and Trowell, N.F. 1996. Geological compilation of the Abitibi greenstone belt, Ontario: in Summary of Field Work and Other Activities, 1996, Ontario Geological Survey, Miscellaneous Paper 166, p.19-22.

Ayer, J.A. and Trowell, N.F. 1998. Geological compilation of the Timmins area, Abitibi greenstone belt; Ontario Geological Survey, Preliminary Map P.3379, scale 1:100 000.

Ayer, J.A. and Trowell, N.F. 2000. Geological compilation of the Kirkland Lake area, Abitibi greenstone belt; Ontario Geological Survey, Preliminary Map P.3425, scale 1:100 000.

Ayer, J.A. and Trowell, N.F. 2001. The Abitibi greenstone belt: a program update: in Summary of Field Work and Other Activities 2001, Ontario Geological Survey, Open File Report 6070, p.4-1 to 4-9.

Ayer, J.A. and Trowell, N.F. 2002. Geological compilation of the Swayze area, Abitibi greenstone belt; Ontario Geological Survey, Preliminary Map P.3511, scale 1:100 000.

Ayer, J.A., Trowell, N.F., Amelin, Y. and Corfu, F. 1999. Geological compilation of the Abitibi greenstone belt in Ontario: towards a revised stratigraphy based on compilation and new geochronology results; in Summary of Field Work and Other Activities 1999, Ontario Geological Survey, Miscellaneous Paper 169, p.14-24.

Ayer, J.A., Trowell, N.F., Berger, B., Madon, Z., Zalnieriunas, R. and Valade, L. 1999. Geological compilation of the Lake Abitibi area, Abitibi greenstone belt; Ontario Geological Survey, Miscellaneous Release—Data 46.

Ayer, J.A., Trowell, N.F. and Josey, S. 2004. Geological compilation of the Abitibi greenstone belt; Ontario Geological Survey, Miscellaneous Release—Data 143.

Ayer, J.A., Trowell, N.F., Josey, S., Nevills, M. and Valade, L. 2003. Geological compilation of the Matachewan area, Abitibi greenstone belt; Ontario Geological Survey, Preliminary Map P.3527, scale 1:100 000.

Ayer, J.A., Trowell, N.F., Josey, S., Nevills, M. and Valade, L. 2003. Geological compilation of the Matachewan area, Abitibi greenstone belt; Ontario Geological Survey, Miscellaneous Release—Data 94.

Ayer, J.A., Trowell, N.F., Madon, Z. and Corfu, F. 1997. Geological compilation of the Abitibi greenstone belt in Ontario: the correlation of metallogenic potential with stratigraphy; in Summary of Field Work and Other Activities 1997, Ontario Geological Survey, Miscellaneous Paper 168, p.3-9.

Ayer, J.A., Trowell, N.F., Madon, Z., Kamo, S., Kwok, Y.Y. and Amelin, Y. 1999. Compilation of the Abitibi greenstone belt in the Timmins–Kirkland Lake area: revisions to stratigraphy and new geochronologic results; in Summary of Field Work and Other Activities 1999, Ontario Geological Survey, Open File Report 6000, p.4-1 to 4-14.

Ayer, J.A., Trowell, N.F., Madon, Z., Wilson, A., Messier, L. and McIlraith, S.J. 1998. Geological compilation of the Timmins area, Abitibi greenstone belt; Ontario Geological Survey, Miscellaneous Release—Data 36.

Ayer, J.A., Trowell, N.F., Valade, L., Amyotte, E. and Madon, Z. 2000. Geological compilation of the Kirkland Lake area, Abitibi greenstone belt; Ontario Geological Survey, Miscellaneous Release—Data 58.

Ayer, J.A., Trowell, N.F., Valade, L., Nevills, M. and Madon, Z. 2002. Geological compilation of the Swayze area, Abitibi greenstone belt; Ontario Geological Survey, Miscellaneous Release—Data 93.

Gupta, V.K. 1995. Processing of airborne magnetic and electromagnetic surveys – progress report; in Summary of Field Work and Other Activities 1995, Ontario Geological Survey, Miscellaneous Paper 164, p.299-300.

Gupta, V.K. 1996. Ontario airborne magnetic and electromagnetic surveys: Archean and Proterozoic "Greenstone" belts; in Summary of Field Work and Other Activities 1996, Ontario Geological Survey, Miscellaneous Paper 166, p.168-176.

Heather, K.B., Shore, G.T. and van Breemen, O. 1995. The convoluted "layer-cake": an old recipe with new ingredients for the Swayze greenstone belt, southern Superior Province, Ontario; in Current Research 1995-C, Geological Survey of Canada, p.1-10.

Jackson, S.L. and Fyon, J.A. 1991. The western Abitibi Subprovince in Ontario; in Geology of Ontario, Ontario Geological Survey, Special Volume 4, Part 1, p.404-482.

CREDITS

Geological compilation and interpretation by J.A. Ayer and N.F. Trowell.

Compilation of mineral deposit data by J.A. Ayer, G.P.B. Grabowski and N.F. Trowell.

Preparation of base map by S. Josey.

Preparation of geophysical imagery by D. Rainsford.

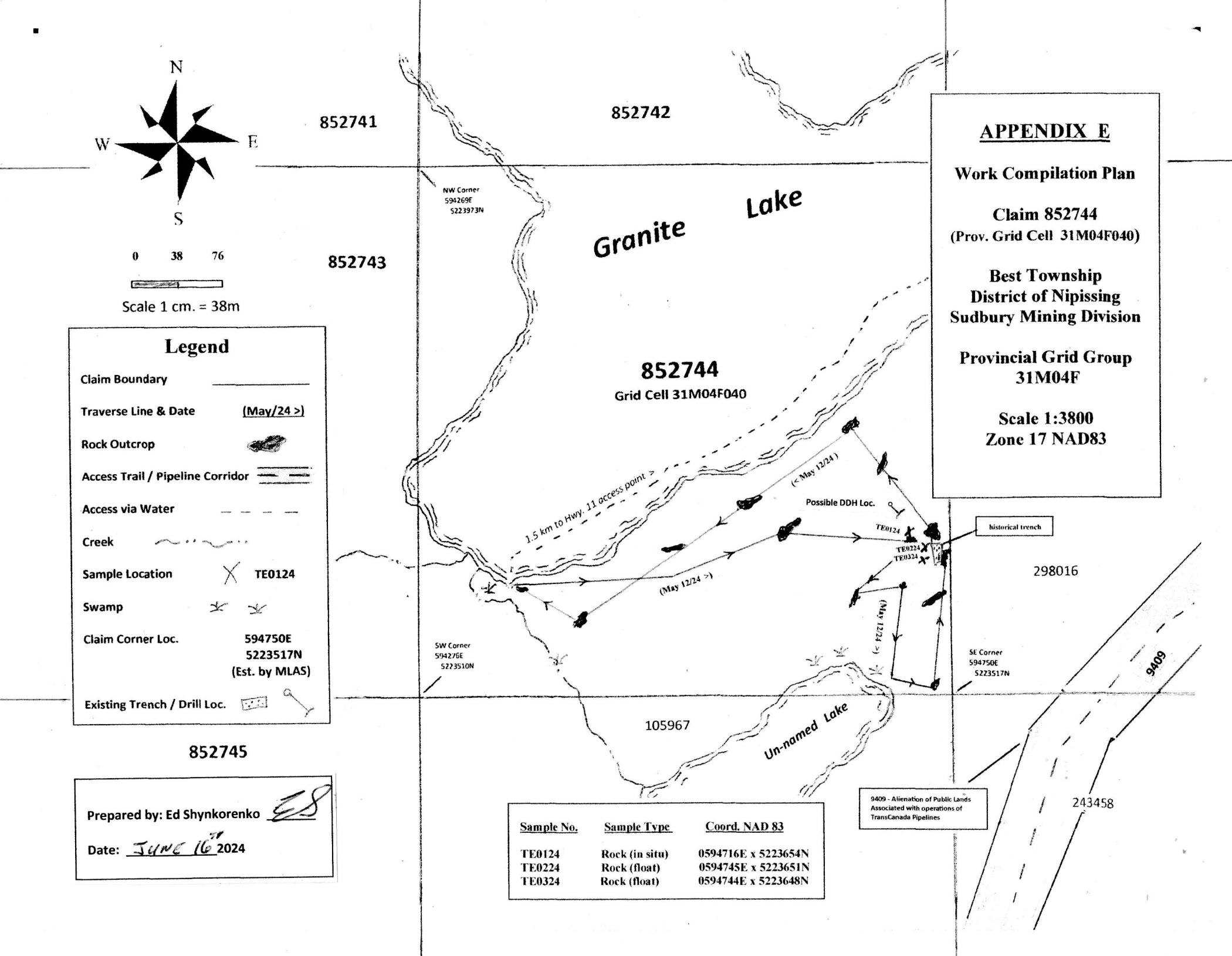
GIS compilation of data by S. Josey and J. Chartrand.

To enable the rapid dissemination of information, this map has not received a technical edit. Discrepancies may occur for which the Ontario Ministry of Northern Development and Mines does not assume liability. Users should verify critical information.

Issued 2006.

Information from this publication may be quoted if credit is given. It is recommended that reference to this map be made in the following form:

Ayer, J.A., Chartrand, J.E., Grabowski, G.P.D., Josey, S., Rainsford, D. and Trowell, N.F. 2006. Geological compilation of the Cobalt–Temagami area, Abitibi greenstone belt; Ontario Geological Survey, Preliminary Map P.3581, scale 1:100 000.



APPENDIX E

Work Compilation Plan

Claim 852744
(Prov. Grid Cell 31M04F040)

Best Township
District of Nipissing
Sudbury Mining Division

Provincial Grid Group
31M04F

Scale 1:3800
Zone 17 NAD83

Sample No.	Sample Type	Coord. NAD 83
TE0124	Rock (in situ)	0594716E x 5223654N
TE0224	Rock (float)	0594745E x 5223651N
TE0324	Rock (float)	0594744E x 5223648N

APPENDIX F Sample Location Photographs

Sample Location TE0124
594716E x 5223654N
Zone 17 /NAD83

Sample Location TE0224
594745E x 5223651N
Zone 17 /NAD83

Sample Location TE0324
594744E x 5223648N
Zone 17 /NAD83

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Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: EDWARD SHYNKORENKO

Finalized Date: 1-JUN-2024
This copy reported on 3-JUN-2024
Account: SHYNEDW

CERTIFICATE TM24136513

This report is for 3 samples of Rock submitted to our lab in Timmins, ON, Canada on 23-MAY-2024.

The following have access to data associated with this certificate:

EDWARD SHYNKORENKO

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
LOG-22	Sample login - Rcd w/o BarCode
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize up to 250g 85% <75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS41	Ultra Trace Aqua Regia ICP-MS	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Saa Traxler, Director, North Vancouver Operations

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To: EDWARD SHYNKORENKO

Finalized Date: 1-JUN-2024
Account: SHYNEDW

CERTIFICATE OF ANALYSIS TM24136513

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS41 Ag ppm 0.01	ME-MS41 Al % 0.01	ME-MS41 As ppm 0.1	ME-MS41 Au ppm 0.02	ME-MS41 B ppm 10	ME-MS41 Ba ppm 10	ME-MS41 Be ppm 0.05	ME-MS41 Bi ppm 0.01	ME-MS41 Ca % 0.01	ME-MS41 Cd ppm 0.01	ME-MS41 Ce ppm 0.02	ME-MS41 Co ppm 0.1	ME-MS41 Cr ppm 1	ME-MS41 Cs ppm 0.05
TE0124		0.42	0.06	2.54	1.2	<0.02	<10	140	0.46	0.53	1.09	0.06	45.0	17.0	98	0.63
TE0224		0.67	0.07	0.28	0.8	<0.02	<10	60	0.14	0.56	0.07	0.01	11.80	1.7	7	0.33
TE0324		1.79	0.01	0.36	0.4	<0.02	<10	30	0.08	0.12	0.07	0.01	35.1	1.8	29	0.21

***** See Appendix Page for comments regarding this certificate *****

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To: EDWARD SHYNKORENKO

CERTIFICATE OF ANALYSIS TM24136513

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
	LOD	0.2	0.01	0.05	0.05	0.02	0.01	0.005	0.01	0.2	0.1	0.01	5	0.05	0.01	0.05
TE0124		44.5	4.32	8.05	0.09	0.45	0.01	0.013	0.16	22.4	33.9	1.79	920	1.29	0.04	0.37
TE0224		5.7	0.80	1.12	<0.05	0.19	<0.01	0.009	0.19	5.5	2.9	0.05	73	0.58	0.05	0.77
TE0324		4.8	0.68	1.28	<0.05	0.11	<0.01	<0.005	0.11	17.2	4.0	0.19	47	0.26	0.04	0.28

***** See Appendix Page for comments regarding this certificate *****

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Finalized Date: 1-JUN-2024
Account: SHYNEDW

CERTIFICATE OF ANALYSIS TM24136513

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti
	Units	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	LOD	0.2	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	0.2	0.005
TE0124		56.3	870	11.7	10.6	0.001	0.07	0.27	4.4	0.2	0.5	21.8	0.01	0.02	6.0	0.193
TE0224		1.3	120	2.3	9.6	<0.001	0.09	<0.05	0.7	0.2	0.6	2.9	<0.01	0.12	4.8	0.015
TE0324		7.0	70	1.5	4.6	<0.001	<0.01	<0.05	0.7	0.2	<0.2	4.0	<0.01	<0.01	4.4	0.041

***** See Appendix Page for comments regarding this certificate *****

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Finalized Date: 1-JUN-2024
Account: SHYNEDW

CERTIFICATE OF ANALYSIS TM24136513

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Tl	U	V	W	Y	Zn	Zr
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.02	0.05	1	0.05	0.05	2	0.5
TE0124		0.06	2.13	44	0.29	9.66	91	15.1
TE0224		0.05	0.99	2	0.20	7.61	10	4.4
TE0324		0.02	0.41	6	<0.05	4.60	9	3.5

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CERTIFICATE OF ANALYSIS TM24136513

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).
ME-MS41

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.
ME-MS41

Applies to Method: Processed at ALS Timmins located at Unit 10 - 2090 Riverside Drive, Timmins, ON, Canada.

CRU-31	CRU-QC	LOG-22	PUL-31
PUL-QC	SPL-21	WEI-21	

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Finalized Date: 1-JUN-2024
This copy reported on 3-JUN-2024
Account: SHYNEDW

QC CERTIFICATE TM24136513

This report is for 3 samples of Rock submitted to our lab in Timmins, ON, Canada on 23-MAY-2024.

The following have access to data associated with this certificate:

EDWARD SHYNKORENKO

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
LOG-22	Sample login - Rcd w/o BarCode
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize up to 250g 85% <75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS41	Ultra Trace Aqua Regia ICP-MS	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Saa Traxler, Director, North Vancouver Operations

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To: EDWARD SHYNKORENKO

QC CERTIFICATE OF ANALYSIS TM24136513

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.01	0.01	0.1	0.02	10	10	0.05	0.01	0.01	0.01	0.02	0.1	1	0.05	0.2
STANDARDS																
MRCA-21		8.06	2.04	17.4	0.12	10	630	1.61	1.42	0.45	2.06	56.1	29.2	52	9.37	937
Target Range - Lower Bound		7.63	1.88	17.2	0.08	<10	570	1.45	1.39	0.40	1.87	53.1	28.0	47	9.13	886
Upper Bound		9.35	2.32	21.2	0.17	20	790	1.89	1.73	0.51	2.31	64.9	34.4	59	11.25	1020
OREAS 232b		0.10	2.62	454	0.86	<10	110	1.18	0.28	0.33	0.03	50.8	14.3	108	6.38	24.5
Target Range - Lower Bound		0.08	2.44	409	<0.02		90	1.08	0.26	0.29	0.02	46.8	13.8	97	6.03	23.4
Upper Bound		0.13	3.00	501	0.04		150	1.44	0.34	0.38	0.07	57.2	17.0	121	7.48	27.4
BLANKS																
BLANK		<0.01	<0.01	<0.1	<0.02	<10	<10	<0.05	<0.01	<0.01	<0.01	<0.02	<0.1	<1	<0.05	<0.2
Target Range - Lower Bound		<0.01	<0.01	<0.1	<0.02	<10	<10	<0.05	<0.01	<0.01	<0.01	<0.02	<0.1	<1	<0.05	<0.2
Upper Bound		0.02	0.02	0.2	0.04	20	20	0.10	0.02	0.02	0.02	0.04	0.2	2	0.10	0.4
DUPLICATES																
ORIGINAL		0.24	2.70	<0.1	0.02	<10	10	<0.05	1.10	0.35	0.12	12.40	40.6	74	0.44	411
DUP		0.25	2.72	0.1	0.02	<10	10	<0.05	1.16	0.35	0.12	13.05	41.5	74	0.46	420
Target Range - Lower Bound		0.22	2.56	<0.1	<0.02	<10	<10	<0.05	1.06	0.32	0.10	12.05	38.9	69	0.38	401
Upper Bound		0.27	2.86	0.2	0.04	20	20	0.10	1.20	0.38	0.14	13.40	43.2	79	0.52	430

***** See Appendix Page for comments regarding this certificate *****

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To: EDWARD SHYNKORENKO

QC CERTIFICATE OF ANALYSIS TM24136513

Sample Description	Method Analyte Units LOD	ME-MS41 Fe % 0.01	ME-MS41 Ga ppm 0.05	ME-MS41 Ge ppm 0.05	ME-MS41 Hf ppm 0.02	ME-MS41 Hg ppm 0.01	ME-MS41 In ppm 0.005	ME-MS41 K % 0.01	ME-MS41 La ppm 0.2	ME-MS41 Li ppm 0.1	ME-MS41 Mg % 0.01	ME-MS41 Mn ppm 5	ME-MS41 Mo ppm 0.05	ME-MS41 Na % 0.01	ME-MS41 Nb ppm 0.05	ME-MS41 Ni ppm 0.2
STANDARDS																
MRCA-21		3.22	9.43	0.13	0.28	0.06	0.114	1.01	31.9	48.4	0.69	7810	22.4	0.14	0.67	939
Target Range - Lower Bound		2.94	9.13	<0.05	0.25	0.04	0.103	0.90	29.7	42.4	0.62	7320	21.3	0.13	0.64	847
Upper Bound		3.62	11.25	0.26	0.36	0.10	0.137	1.12	36.7	52.0	0.78	8960	26.1	0.18	1.01	1035
OREAS 232b		3.28	7.68	0.10	0.46	<0.01	0.030	0.89	25.2	40.1	1.29	285	0.87	0.09	0.32	57.1
Target Range - Lower Bound		2.96	7.67	<0.05	0.43		0.022	0.77	22.8	37.3	1.19	265	0.79	0.08	0.22	52.9
Upper Bound		3.64	9.49	0.23	0.57		0.046	0.97	28.3	45.8	1.47	335	1.09	0.13	0.50	65.1
BLANKS																
BLANK		<0.01	<0.05	<0.05	<0.02	<0.01	<0.005	<0.01	<0.2	<0.1	<0.01	<5	<0.05	<0.01	<0.05	<0.2
Target Range - Lower Bound		<0.01	<0.05	<0.05	<0.02	<0.01	<0.005	<0.01	<0.2	<0.1	<0.01	<5	<0.05	<0.01	<0.05	<0.2
Upper Bound		0.02	0.10	0.10	0.04	0.02	0.010	0.02	0.4	0.2	0.02	10	0.10	0.02	0.10	0.4
DUPLICATES																
ORIGINAL		5.51	11.50	0.11	0.11	<0.01	0.050	0.04	5.5	15.7	2.19	267	3.40	0.07	0.08	61.8
DUP		5.57	11.50	0.11	0.10	<0.01	0.050	0.04	5.8	15.6	2.21	263	3.53	0.07	0.08	62.9
Target Range - Lower Bound		5.25	10.90	<0.05	0.08	<0.01	0.043	0.03	5.2	14.8	2.08	247	3.24	0.06	<0.05	59.0
Upper Bound		5.83	12.15	0.17	0.13	0.02	0.058	0.05	6.1	16.5	2.32	283	3.69	0.08	0.10	65.7

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QC CERTIFICATE OF ANALYSIS TM24136513

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl
	Units	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
	LOD	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	0.2	0.005	0.02
STANDARDS																
MRCA-21		640	864	102.0	0.011	0.43	21.2	8.4	1.0	3.6	35.3	0.01	0.10	6.2	0.281	0.76
Target Range - Lower Bound		570	796	98.0	0.009	0.38	19.25	7.6	0.6	3.1	33.6	<0.01	0.09	6.2	0.249	0.69
Upper Bound		710	974	120.0	0.015	0.48	26.2	9.5	1.5	4.3	41.6	0.03	0.15	8.0	0.315	0.97
OREAS 232b		590	8.0	79.0	<0.001	0.18	160.5	6.8	<0.2	1.6	27.8	<0.01	0.01	10.4	0.169	0.46
Target Range - Lower Bound		520	7.6	75.5		0.15	120.0	6.0		1.1	25.9			10.2	0.144	0.40
Upper Bound		660	9.7	92.5		0.21	162.0	7.5		2.1	32.1			13.0	0.188	0.58
BLANKS																
BLANK		<10	<0.2	<0.1	<0.001	<0.01	<0.05	<0.1	<0.2	<0.2	<0.2	<0.01	<0.01	<0.2	<0.005	<0.02
Target Range - Lower Bound		<10	<0.2	<0.1	<0.001	<0.01	<0.05	<0.1	<0.2	<0.2	<0.2	<0.01	<0.01	<0.2	<0.005	<0.02
Upper Bound		20	0.4	0.2	0.002	0.02	0.10	0.2	0.4	0.4	0.4	0.02	0.02	0.4	0.010	0.04
DUPLICATES																
ORIGINAL		230	2.7	1.6	0.009	0.88	<0.05	3.2	4.5	0.2	7.7	<0.01	2.51	1.6	0.059	0.03
DUP		240	2.5	1.6	0.010	0.90	<0.05	3.3	4.7	0.2	8.0	<0.01	2.70	1.7	0.059	0.03
Target Range - Lower Bound		210	2.3	1.4	0.008	0.84	<0.05	3.0	4.2	<0.2	7.3	<0.01	2.46	1.4	0.051	<0.02
Upper Bound		260	2.9	1.8	0.011	0.94	0.10	3.5	5.0	0.4	8.4	0.02	2.75	1.9	0.067	0.04

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To: EDWARD SHYNKOREKO

QC CERTIFICATE OF ANALYSIS TM24136513

Sample Description / Method / Analyte / Units / LOD	ME-MS41 U ppm 0.05	ME-MS41 V ppm 1	ME-MS41 W ppm 0.05	ME-MS41 Y ppm 0.05	ME-MS41 Zn ppm 2	ME-MS41 Zr ppm 0.5
STANDARDS						
MRCA-21	3.26	61	6.71	11.75	804	6.7
Target Range - Lower Bound	3.16	56	5.72	11.10	727	5.9
Upper Bound	3.98	70	7.86	13.70	893	9.4
OREAS 232b	1.28	65	0.37	8.12	80	16.8
Target Range - Lower Bound	1.21	59	0.21	7.91	71	16.5
Upper Bound	1.59	75	0.47	9.77	91	23.5
BLANKS						
BLANK	<0.05	<1	<0.05	<0.05	<2	<0.5
Target Range - Lower Bound	<0.05	<1	<0.05	<0.05	<2	<0.5
Upper Bound	0.10	2	0.10	0.10	4	1.0
DUPLICATES						
ORIGINAL	0.20	39	0.08	1.46	189	4.2
DUP	0.21	40	0.08	1.46	188	4.1
Target Range - Lower Bound	0.14	37	<0.05	1.34	177	3.3
Upper Bound	0.27	42	0.10	1.58	200	5.0

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QC CERTIFICATE OF ANALYSIS TM24136513

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).
ME-MS41

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.
ME-MS41

Applies to Method: Processed at ALS Timmins located at Unit 10 - 2090 Riverside Drive, Timmins, ON, Canada.

CRU-31	CRU-QC	LOG-22	PUL-31
PUL-QC	SPL-21	WEI-21	