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EMPRESS PROJECT

ASSESSMENT REPORT

On Prospecting

Jackfish Lake Area

Terrace Bay, Ontario

May 21, 2023

Author: Kevin Kivi. P.Ge.  
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# Summary

Sanatana's Empress Project (Property) is located in Syine township in Northwestern Ontario about 250 km east of Thunder Bay and 16 km east of Terrace Bay, the closest town. Trans-Canada Highway 17 crosses the southern claims of the property. The property consists of 42 active claim cells with combined area 648 hectares. Two surface rights properties occupy the central part of the property. There is an active trapline on the property.

KIVI Geoscience Inc was asked on short notice to perform prospecting and to write a technical report to cover assessment work required on a small group of mining claims within the Empress Project with a due date of May 21, 2023.

Sanatana conducted prospecting on the Empress Project on May 18 and May 19, 2023.

KIVI Geoscience Inc. performed work and wrote the report for Sanatana Resources Inc.

Sanatana has drilled for holes for 402m into Section 6E of the Empress Structure in 2019 and mentions it in the company MD&A in December 2019, but has not filed this drilling work as assessment. The author found no record of this work in OAFD or ODHD databases.

The author recommends that Sanatana complete an assessment report on drilling to cover claims with July 2023 due dates.

The author recommends resuming correspondence with Biigtigong Nishnaabeg, Surface Rights Owners, and the trapper active on the property if they plan to apply for a new exploration permit and conduct more exploration on the Empress Project.

Sanatana uses Universal Transverse Mercator (UTM) co-ordinates in Datum NAD83, Zone 16N to locate areas of work in this report. All maps are also presented in this Datum.

## Location and Access

The Empress Project is in Syine Township of Thunder Bay Mining Division, Ontario.

The Empress Project is about 250 km east of Thunder Bay and 16 km east of Terrace Bay, the closest town. Trans-Canada Highway 17 crosses the southern part of the property. The area's long history of forestry, exploration and mining has left a trail network on the property accessible with 4WD truck and all-terrain vehicles such as Argos, UTVs, ATVs and snowmobiles.

One of the trails on the property is flagged as an active trapline.

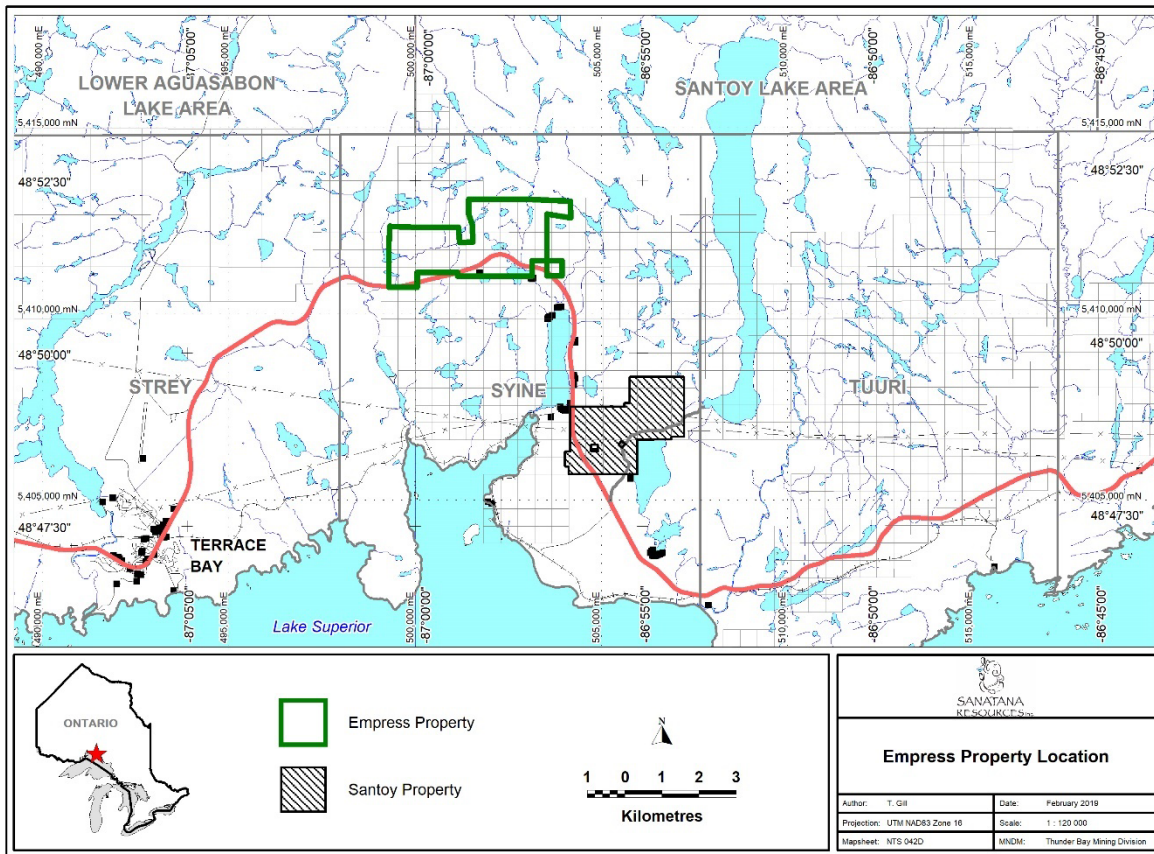
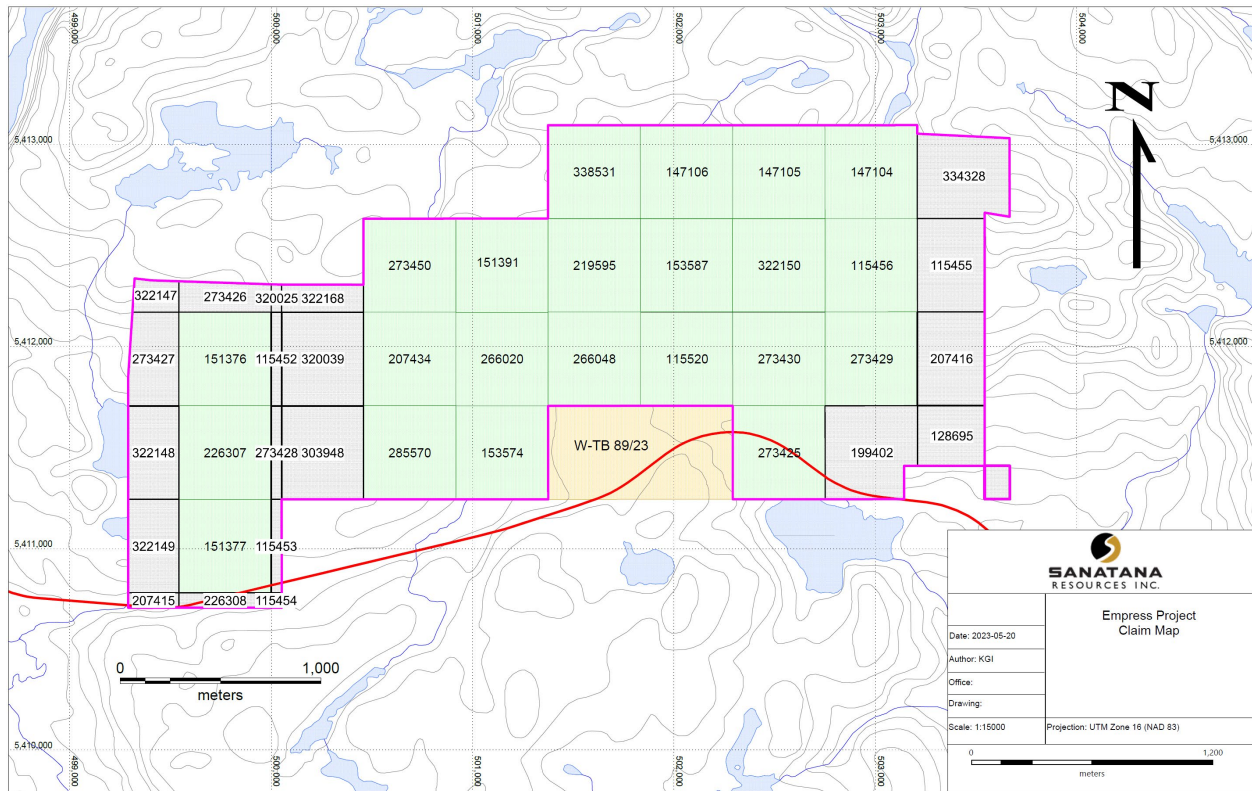


Figure 1. Location of Empress Project relative to Terrace Bay, NW Ontario.

## Property Description

The Empress Project consists of 42 unpatented mining claims with 22 single cell mining claims and 20 boundary cell mining claims with combined area 648 hectares (Figure 2). WTB23/89 indicates two former mining cells that lapsed recently where Relief from Forfeiture has been requested by Sanatana on May 18, 2023.



**Figure 2. Mining Claims of the Fortune Project (UTM NAD83z16)**

Table 1 lists 42 operational cell mining claims of the Empress Project. All mining claims are active and in good standing at the time of this report and are held 100% by Santana Resources Inc.

**Table 1. Mining Claims of the Fortune Project.**

Township / Area	Tenure ID	Tenure Type	Tenure Status	Anniversary Date	Tenure Percentage	Work Required
SYINE	115520	Single Cell Mining Claim	Active	17-May-2023	100	400
SYINE	147106	Single Cell Mining Claim	Active	17-May-2023	100	200
SYINE	153587	Single Cell Mining Claim	Active	17-May-2023	100	400
SYINE	219595	Single Cell Mining Claim	Active	17-May-2023	100	400
SYINE	266048	Single Cell Mining Claim	Active	17-May-2023	100	200
SYINE	338531	Single Cell Mining Claim	Active	17-May-2023	100	400
SYINE	151391	Single Cell Mining Claim	Active	21-May-2023	100	400
SYINE	153574	Single Cell Mining Claim	Active	21-May-2023	100	400
SYINE	207434	Single Cell Mining Claim	Active	21-May-2023	100	400
SYINE	266020	Single Cell Mining Claim	Active	21-May-2023	100	200
SYINE	273450	Single Cell Mining Claim	Active	21-May-2023	100	400

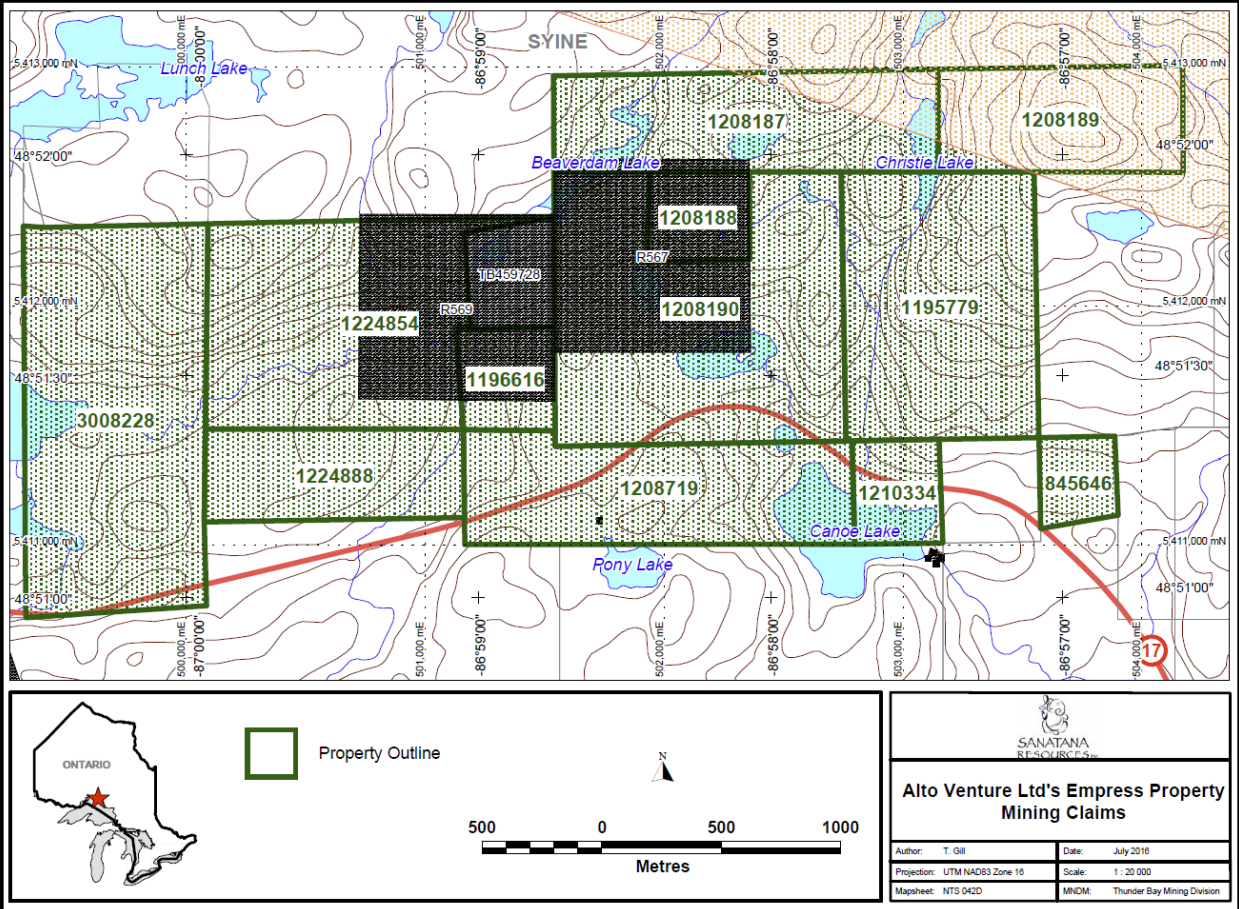
Township / Area	Tenure ID	Tenure Type	Tenure Status	Anniversary Date	Tenure Percentage	Work Required
SYINE	285570	Single Cell Mining Claim	Active	21-May-2023	100	385
SYINE	303948	Boundary Cell Mining Claim	Active	21-May-2023	100	200
SYINE	320039	Boundary Cell Mining Claim	Active	21-May-2023	100	200
SYINE	322168	Boundary Cell Mining Claim	Active	21-May-2023	100	200
SYINE	115452	Boundary Cell Mining Claim	Active	11-Jul-2023	100	200
SYINE	115453	Boundary Cell Mining Claim	Active	11-Jul-2023	100	200
SYINE	115454	Boundary Cell Mining Claim	Active	11-Jul-2023	100	200
SYINE	151376	Single Cell Mining Claim	Active	11-Jul-2023	100	400
SYINE	151377	Single Cell Mining Claim	Active	11-Jul-2023	100	400
SYINE	207415	Boundary Cell Mining Claim	Active	11-Jul-2023	100	200
SYINE	226307	Single Cell Mining Claim	Active	11-Jul-2023	100	400
SYINE	226308	Boundary Cell Mining Claim	Active	11-Jul-2023	100	200
SYINE	273426	Boundary Cell Mining Claim	Active	11-Jul-2023	100	200
SYINE	273427	Boundary Cell Mining Claim	Active	11-Jul-2023	100	200
SYINE	273428	Boundary Cell Mining Claim	Active	11-Jul-2023	100	200
SYINE	320025	Boundary Cell Mining Claim	Active	11-Jul-2023	100	200
SYINE	322147	Boundary Cell Mining Claim	Active	11-Jul-2023	100	200
SYINE	322148	Boundary Cell Mining Claim	Active	11-Jul-2023	100	200
SYINE	322149	Boundary Cell Mining Claim	Active	11-Jul-2023	100	200
SYINE	115455	Boundary Cell Mining Claim	Active	15-Jul-2023	100	200
SYINE	115456	Single Cell Mining Claim	Active	15-Jul-2023	100	400
SYINE	128695	Boundary Cell Mining Claim	Active	15-Jul-2023	100	200
SYINE	147104	Single Cell Mining Claim	Active	15-Jul-2023	100	200
SYINE	147105	Single Cell Mining Claim	Active	15-Jul-2023	100	166
SYINE	199402	Boundary Cell Mining Claim	Active	15-Jul-2023	100	200
SYINE	207416	Boundary Cell Mining Claim	Active	15-Jul-2023	100	200
SYINE	273425	Single Cell Mining Claim	Active	15-Jul-2023	100	400
SYINE	273429	Single Cell Mining Claim	Active	15-Jul-2023	100	400
SYINE	273430	Single Cell Mining Claim	Active	15-Jul-2023	100	400
SYINE	322150	Single Cell Mining Claim	Active	15-Jul-2023	100	400
SYINE	334328	Boundary Cell Mining Claim	Active	15-Jul-2023	100	200



# Alto Ventures Option Agreement

Sanatana optioned the Empress Project from Alto Ventures on February 3, 2017, and the deal was amended in June 2019. The Company paid cash of \$75,000; issued 4,200,000 common shares; issued 1,000,000 warrants to purchase common shares at a price of 0.10 for a period of three years, reimbursed exploration expenses of \$20,000, and incurred \$150,000 in exploration expenditures.

Sanatana's reports that it fulfilled the terms of its option to acquire the Empress Property in its Management Discussion and Analysis for the Period Ended December 31, 2019.



**Figure 3. Alto Ventures Empress Property Map showing legacy claims and Surface Rights Owners.**

The Empress Property is subject to the following royalty:

- (a) Pay a net smelter return (“NSR”) royalty on metals of 1% to Alto, for which a 2% NSR royalty already exists in a previous assignment agreement and which royalty has an option to be reduced to 1% for cash payment of \$1,000,000.
- (b) Pay an additional NSR royalty to Alto of 0.33% on any new property acquired within the area of interest contemplated in the option agreement.

# Surface Rights Owners

There are two Surface Rights Owners (SROs) on the Empress Project (Figure 4) known as Mining Location R 569 and R 567 each held by different owner(s). These properties occupy the central part of the Empress Project. Sanatana has notified SROs in the past.

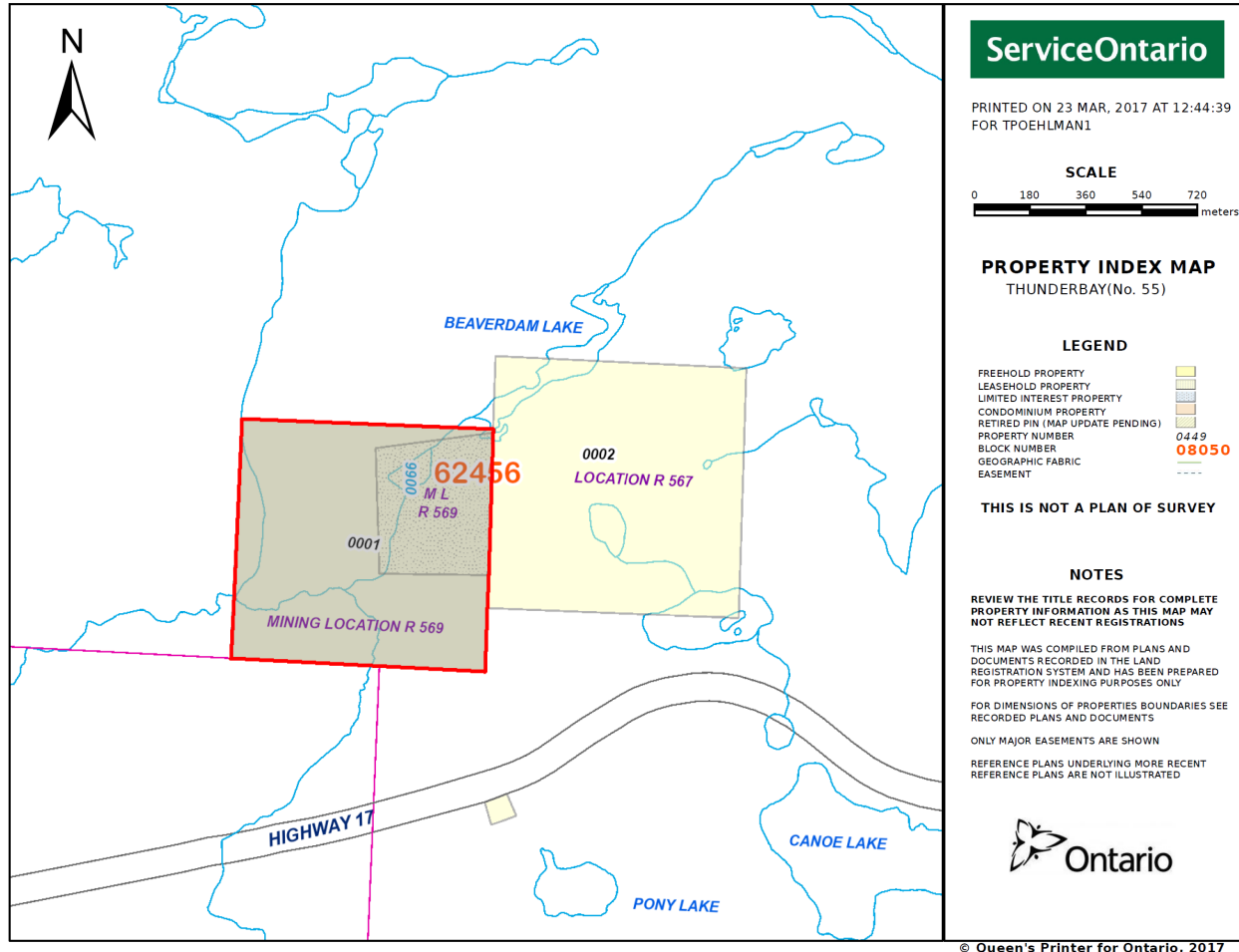


Figure 4. Surface Rights Owners that overlap Empress Project.

## Permitting

Sanatana was granted Exploration Permit PR-17-11157 in 2018 and this permit expired on April 22, 2021. No concerns were raised by local First Nations pertaining to this work permit application.

Sanatana had correspondence with Biigtigong Nishnaabeg prior to 2019, but the status of talks since that time are unknown.

Sanatana has not applied for a new exploration permit, and current work on the Empress Project is prospecting, which is below the threshold for an exploration permit or plan.

Flagging on a trail traversed, and fresh martin boxes indicate an active trapline is present on the property.

# Regional and Property Geology

(this section from Sanatana MD&A, December 21, 2019)

Geologically, the Empress property lies within the Wawa terrane of the Superior province of the Canadian Shield, specifically the metavolcanic/metasedimentary Schreiber-Hemlo greenstone belt. The belt is known for its namesake Hemlo gold operations (Barrick Gold Corporation) and similar geological and structural targets analogous to Hemlo exist in the supracrustal greenstone rocks of the northern parts of the Empress property.

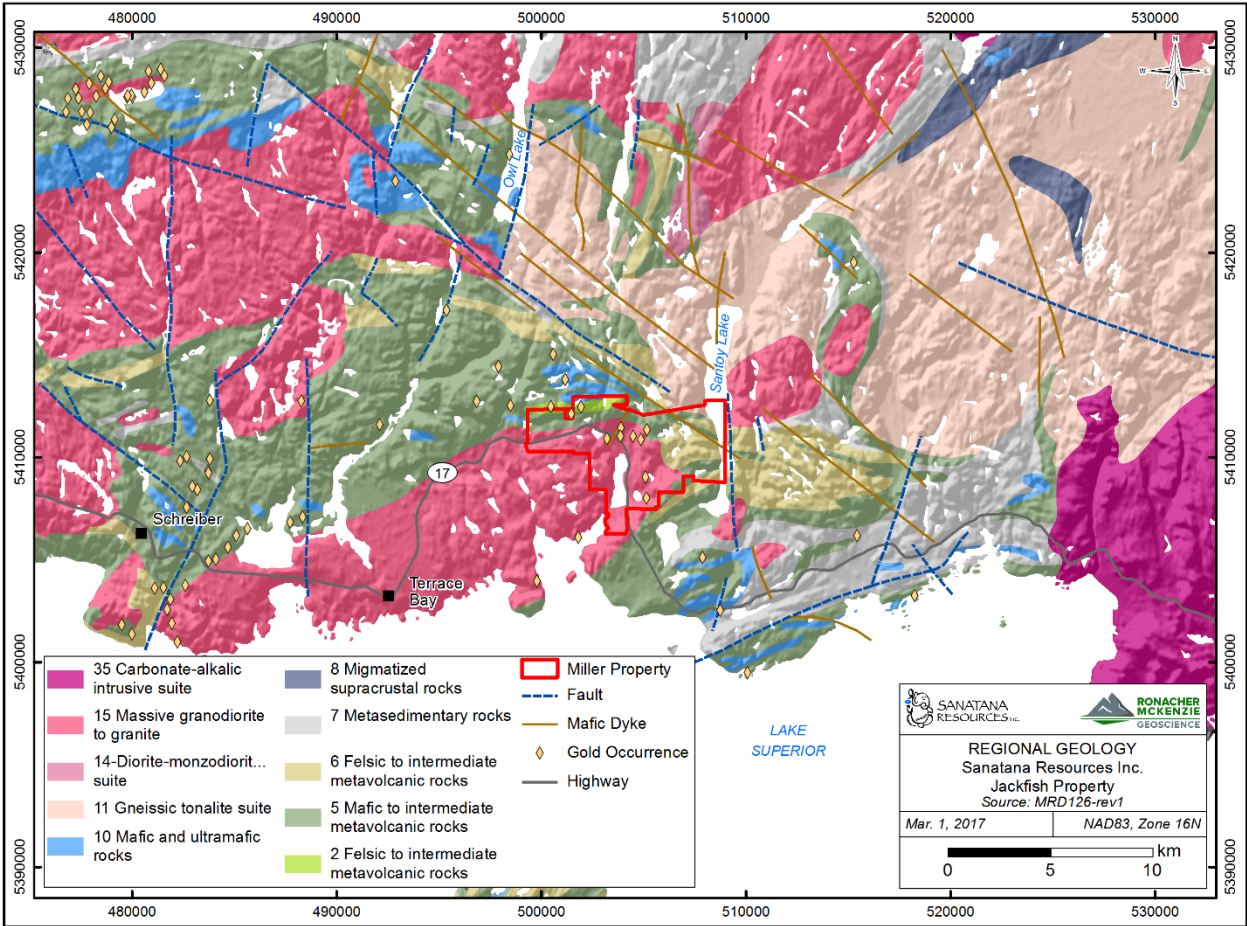
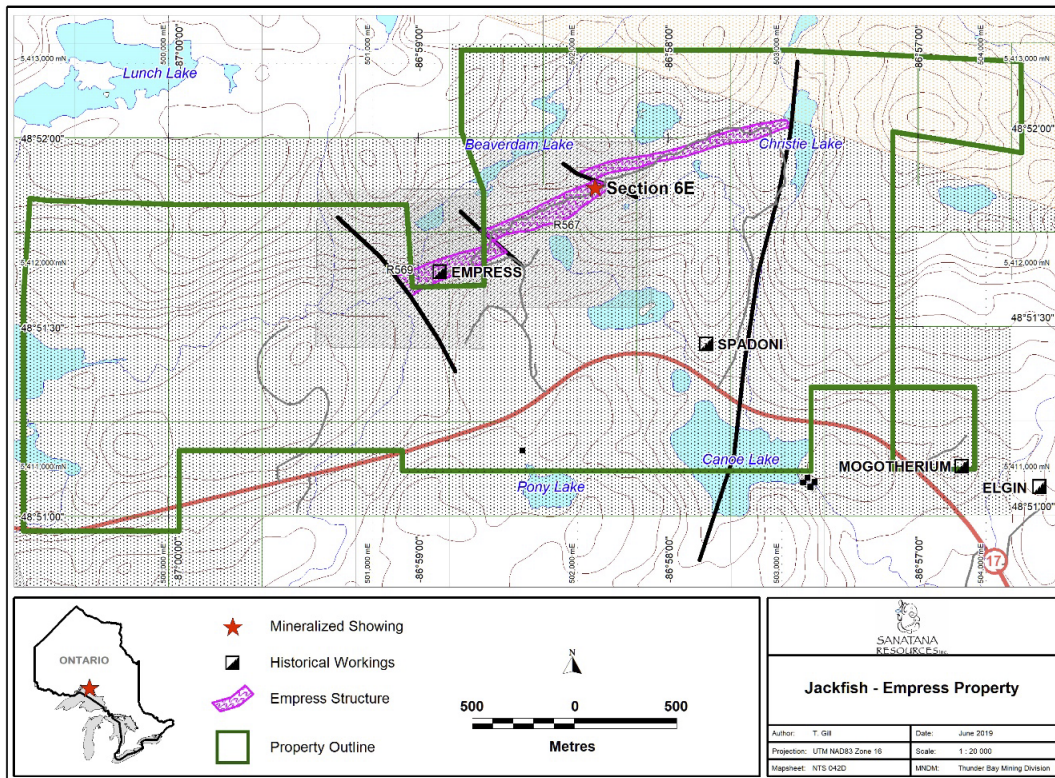


Figure 5. Regional Geology of Sanatana's former Jackfish Project (from Ronacher, 2017)

A folded and foliated sequence of metavolcanic basalts and felsic flows and tuffs intercalated with narrow chert beds trends roughly east – west around the northern margin of the syn tectonic Terrace Bay pluton, that underlies the southern half of the Empress property.



**Figure 6. Empress Property and Exploration Targets.**

The exploration target on the Empress property is the classic greenstone orogenic gold model (sometimes referred to as lode gold or shear zone hosted gold). The exploration program will focus on the Empress Structure, so named after the main trend of historical gold mineralization mined in the late 1800's at the Empress Mine. The Empress Structure is mapped as a deformation corridor up to 50 metres wide dipping steeply to the south for over 1.4 kilometres east-northeast of the old mine.

In particular, the Section 6 East showing provides the best opportunity for success at intersecting gold mineralization at depth based on previous surface channel sampling results and induced polarization ("IP") geophysical data. Cameco Gold Inc. completed channel sampling at Section 6 East in 1999 that returned an interval of 16.2 m @ 1.3 g/t Au hosted by quartz-sericite schist with quartz veining and disseminated pyrite. The gold mineralized interval was co-incident with a very high chargeability and conductive IP anomaly to a depth of 75 metres.

# Exploration Targets

## Orogenic Gold Deposits

Orogenic gold deposits are the most dominant source of gold, globally. The majority of gold deposits in metamorphic terranes are located adjacent to first order, deep crustal fault zone with complex structural histories that may extend for hundreds of kilometers, with widths up to a few thousand metres. Fluid migration along such zones is driven by episodes of major pressure fluctuations during seismic events, and gold ore forms as vein fill of second or third-order shears and faults, particularly at jogs or changes in strike. Mineralization style ranges from stockworks and breccia zones in shallow-brittle regimes, through laminated crack-seal veins and sigmoidal vein arrays in brittle-ductile crustal regions, to replacement- and disseminated-type orebodies in deeper, ductile environments.

World-class orebodies are generally 2-10 km long, about 1 km wide and are mined down-dip to depths of 2-3 kilometres. Most orogenic gold deposits contain 2-5% sulphide minerals, and have gold-silver ratios from 5-10, and gold fineness >900. Arsenopyrite and pyrite are the dominant sulphide minerals, with pyrrhotite dominant in higher temperature ores. Tungsten, bismuth, and tellurium bearing mineral phases are common in sulphide-poor intrusion related gold deposits. Alteration intensity, width and assemblage varies with host rock, but carbonate, sulphides, muscovite, chlorite, K-feldspar, biotite, tourmaline, and albite are generally present.

Most deposits of this ore style are sited in ductile to brittle structures, have proximal alteration assemblages of Fe sulfide-carbonate-sericite +/- albite in rocks of appropriate composition to stabilize the assemblage and were deposited at 300° to 500° C and 1–3 Kbar, as indicated by fluid inclusions and other geothermobarometric studies. They are vertically extensive hydrothermal systems with possibility >5km of depth extent. Structural permeability preparation is also key. Deposits probably occur on splays from regional decollement thrust structures with a strike slip component, during peak metamorphism and post peak (mountain building). Syn- and post- tectonic intrusions may play a role in the plumbing and metal components, but they are not required and may be blind (buried beyond detection).

### TEN COMMANDMENTS FOR OROGENIC GOLD (Prof. David Groves, CET Discovery Day Presentation)

1. Widespread gold anomalism
2. Low-strain belts and restricted high-strain shear zones
3. Anticlinal zones in volcano -sedimentary belts
4. Competency and composition contrasts
5. Prominent curvilinear crustal-scale shears zones
6. Prominent jogs of 10-15 degrees in strike variation
7. Corridors of oblique faults
8. Complex Granite contacts
9. More Complex Geometry at sites of gold deposits
10. Support Board, shareholders, management.

# Adjacent Properties

## Empress Mine Property

Mining Lease ML 569 covers the old Empress Gold Mine, which is on adjacent land north of Sanatana's Empress Project.

Empress Gold Mining Company sunk various test shafts, adits and pits on a series of gold-bearing veins from 1895-1899. A total of 112 ounces of gold were produced from 1100 tons of ore with an average grade of 0.1 oz/t or 3.5 g/t Au. Operations were eventually shut down in 1899 due to lack of funds (Schneider, 1996; Puumala, 2015).

## Previous Work

Exploration near the Empress Property started at the end of the 19th century sparked by the discovery of the Empress Mine in 1895 (Walker, 1967) in metavolcanic rocks of the Schreiber-Hemlo Greenstone Belt just north of the Terrace Bay Batholith.

Relevant historical mining and exploration work conducted on the property, mostly sourced from assessment reports filed with the Ministry of Energy, Northern Development and Mines, is summarized in Table 2.

**Table 2. Previous work near the Empress Project.**

Year	Company	Type of Work	Results	Assessment Report #
1882	Elgin Silver	Underground mining from 2 adits	No production data	42D15SW8353
1932	Siville-Ferrier Syndicate	Stripping, sampling	Up to 10.29 g/t Au over 0.91 m	42D15SW8353
1982	Micham Explorations Inc.	Magnetic and electromagnetic (VLF) surveys	No magnetic anomalies; several weak to moderate conductors	42D14SE1074
1983	Rose Resource Corp.	Magnetic and electromagnetic (VLF) surveys	10 EM conductors and no significant magnetic anomalies	42D15SE0128
1983	Wasabi Resources	Airborne magnetic and EM (VLF) survey	Identified 6 EM conductors	42D15SW0088
1983	Wasabi Resources	Ground proofing of airborne EM conductors	All 6 conductors sulfide iron formation with no Au values	42D15SW0066
1984	John Ferguson	Magnetic and electromagnetic surveys	No significant mag; 2 weak VLF anomalies	42D15SW0121
1984	Goldhurst Resources	Magnetic and electromagnetic surveys	No significant mag; 11 very weak EM conductors	42D15SW0116
1984	Goldhurst Resources	Drilling, 4 drill holes; total 305.1m (1001 feet)	Drill hole 84-04: 2.87 g/t Au over 2.44 m including 6.07g/t Au over 0.91m and 0.96g/t Au over 1.22m	42D15SW0118
1985	Micham Explorations Inc.	Mapping, trenching, sampling (58 rock samples)	Highest assay 13.54 g/t Au in quartz vein at N Siville showing outside of Jackfish claims	42D15SW0114
1985	Micham Explorations Inc.	Soil sampling (1521 samples)	Two anomalous areas: Empress structure W Siville showing; Mocan valley structure	42D15SW0115
1985	Micham Explorations Inc.	Diamond drilling 4 drill holes 482.9m (1584.2 ft)	Highest assays 1166 ppb Au over 1.52m; 1588 ppb Au over 1.83m, 44.23 g/t Au over 0.61 m	42D15SW0117

1986	John Ferguson	Stripping, de-watering, trenching; sampling	Highest assay 13.03 g/t Au; 4,075 g/t Ag	42D15SW0504
1986	John Ferguson	Magnetic and electromagnetic surveys	No significant results	42D15SW0111
1987	John Ferguson	Soil sampling	No significant results	42D15SW0106
1987	Forerunner Resources	Mapping, stripping, trenching, sampling	Highest assay 93.24 g/t Au; 109.03 g/t Ag; 1.2% Cu; 7.85% Pb	42D15SW0505
1987	Micham Explorations Inc.	Diamond drilling 10 drill holes 1674m	No assays recorded	42D15SW0109
1988	Beardmore Resources	Trenching, soil sampling, bedrock sampling	Highest assays: 21.05 g/t Au plus 13.3 g/t Ag and 11.45 g/t Au plus 0.2 g/t Ag	42D15SW8353
1989	J.R. Hamel	Sampling	Highest assay 93.26 g/t Au, 82.79 g/t Ag	42D15SW0110
1991	J.R. Hamel	Stripping and sampling	Highest assay 21.05 g/t Au and 26.06g/t Ag	42D15SW0102
1992	Beavercreek Exploration (J.R. Hamel)	Drilling 2 drill holes 28.04 m (92 ft)	Highest assay 12.21 g/t Au over 1.52 m	42D15SW0002
1994	Beavercreek Exploration (J.R. Hamel)	Drilling 5 drill holes 45.1 m (148 ft)	Best result: 0.51 g/t Au over 3.05 m	42D15SW0001
1995	George Daniels et al.	Stripping, trenching, sampling, line cutting, VLF survey	16.39 g/t Au on claim #1207882 Santoy Lake; 15.77 g/t Au Syine Twp. Historic claim #1224852	42D15NW0009
1996	Big Lake Geological Consulting on behalf of J. Ferguson	Mapping, sampling	Highest assays from trench 14.3 g/t Au and 16.39 g/t Au	42D15NW0038
1996	George Daniels	Prospecting, stripping, trenching	Highest assays from trench 21.94 g/t Au	42D15NW0028
1996	Rudolph Wahl et al.,	Rock sampling (100 samples); soil sampling	No significant results	42D15SW0008
1997	Landis Mining Corp.	Evaluation of previous exploration activity in the area	20 lb composite grab sample: 22.97 g/t Au over 3.05 m from Empress structure	42D15SW2002
1998	George Daniels	Sampling	Highest assays from Jon's showing 1.45 g/t Au	42D15SW2003
1999	Cameco Gold Inc.	Line cutting; mag., IP; trenching; re-logging & re-sampling	DDH 441087-9: 8.07 g/t Au; 93.8 g/t Ag over 0.52 m; DDH 44184-7: 7.09 g/t Au; 19.8 g/t Ag over 1.4 m	42D15SW2010
2000	George Daniels	Trench cleaning, minor blasting	No results	42D15SW2013
2004	Brian Fowler	Line cutting; mag; prospecting, sampling (21)	Highest assay 324 ppb Au	42D15SW2024
2005	Phoenix Matachewan Mines	Prospecting sampling (19 rock samples)	Highest assay 262 ppb Au	20000001155
2007	Wayne Richards	Prospecting, mapping, stripping, sampling (4 samples)	No Au assays; two samples >100 g/t Ag	20000003831
2007	Alto Ventures Ltd.	Mapping, prospecting and sampling (47 rock samples)	Highest assay 2,278 ppb Au	20000002005
2008	Alto Ventures Ltd.	Drilling 2 drill holes 332 m on Empress structure	0.66 g/t Au over 2.3 m	20000003772
2009	Rudolph Wahl	Prospecting, mapping, sampling (22 samples)	No significant results	I20000004525
2010	Galahad Metals	Soil sampling (619 samples), mapping trenching, sampling (89 samples)	26.8 g/t Au and 119 g/t Ag; 24.7 g/t Au and 40.4 g/t Ag at creek showing	20000005783
2010	Bond et al.	Prospecting, mapping, rock samples (63 samples) and lake sediment samples (7 samples)	309 and 459 ppb Au	20000006073
2010	Bond et al.	Drilling 2 holes 240 m	No significant results	20000006073
2012	Rudolph Wahl	Prospecting, mapping, sampling (30 samples)	1.9 g/t Au sample # 997103	20000007183

2012	Hamel et al.	Prospecting , mapping, sampling (11 samples), diamond drilling	No significant results	2000007081, 2.53866
2014	Alto Ventures Ltd.	Bedrock sampling (21 samples)	No significant results	2000008044
2014	Alto Ventures Ltd.	Assaying and Analyses, Geochemical, Geological Survey / Mapping, Prospecting	No significant results	2000008314
2015	Alto Ventures Ltd.	Geochemical, Prospecting, Rock Sampling, Soil/Till Sampling	Gold grains recovered in 21/23 till samples, KIMs recovered, Low Au in rock samples	20000013949
2016	Alto Ventures Ltd.	Assaying and Analyses, Geochemical, Soil/Till Sampling		20000013750
2017	Sanatana Resources Inc	Air Photo and Remote Imagery Interpretations	Digital surface model	20000017282 & 84
2017	Sanatana Resources Inc	Geoscientific Interpretation Report	Prospect on 070 Azimuth trends	20000017310
2018	Sanatana Resources Inc	Airborne Magnetics and Inversion modelling	New gold showings near contact and within the Terrace Bay batholith	20000019187 & 20000017132
2018	Oren Kravchik	Channel Sampling, Geological Survey / Mapping, Overburden Stripping, Regional or Reconnaissance Ground Exploration	Gold in boudinaged quartz veins, grab samples of 2.62 g/t Au and 7.64 g/t Au, Channel of 0.527 g/t Au over 1.2 meters	20000017109

## Sanatana 2019 Exploration Program

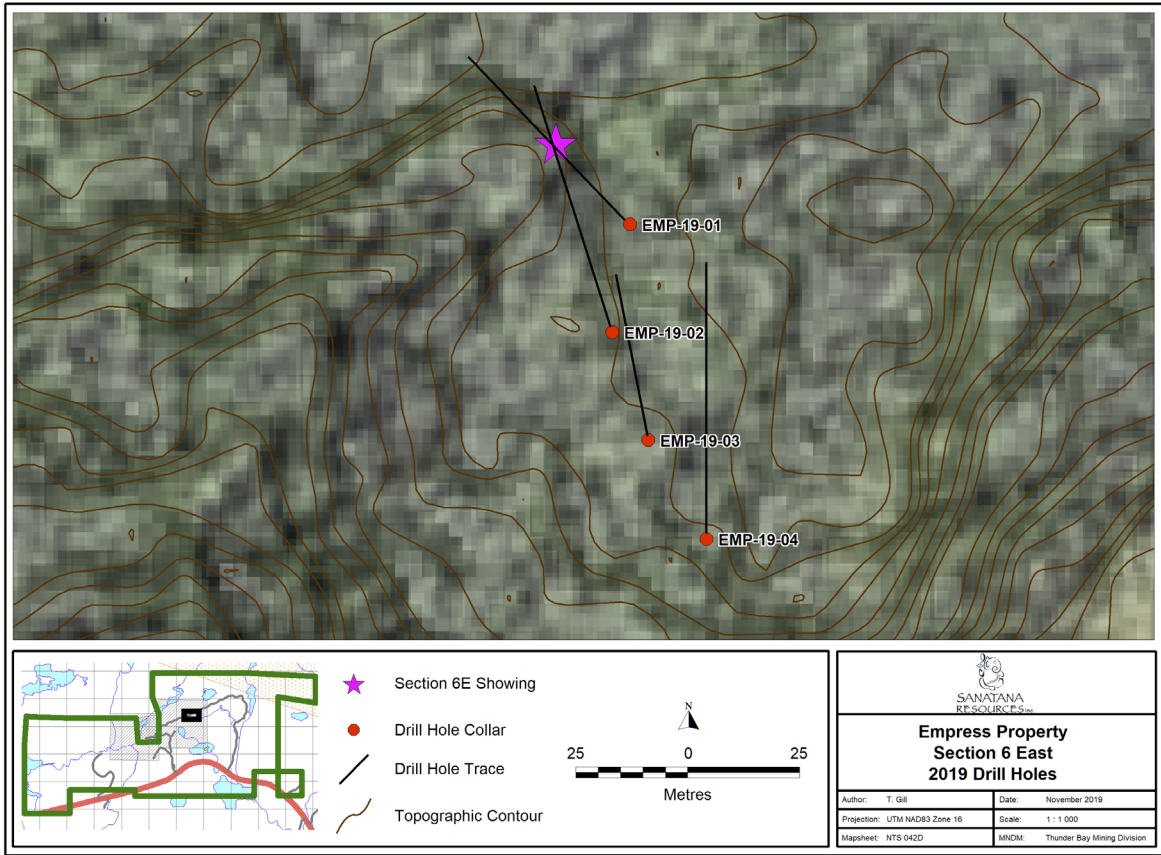
(This section from Sanatana's MD&A, December 31, 2019.)

*"A four-hole, 402-metre diamond drilling program testing the Section 6 East target was completed in September. The Empress Structure (shear zone) was traversed by each drill hole stepping back south from the stripped outcrop 25 metres at a time (see table 3 for drill hole information), although the drill collar locations had to be placed as the variable topography of the landscape would allow (see map of drill holes).*

**Table 3. Section 6 East Drill Hole Information.**

Hole	UTM East (NAD83)	UTM North (NAD83)	RL (masl)	Date Started	Date Completed	Dip	Azimuth (Grid)	Depth
EMP-19-01	502104	5412374	365 m	7/9/2019	9/9/2019	-60°	310°	100.5 m
EMP-19-02	502100	5412350	363 m	10/9/2019	12/9/2019	-60°	350°	111.0 m
EMP-19-03	502108	5412326	363 m	15/9/2019	18/9/2019	-60°	350°	70.5 m
EMP-19-04	502121	5412304	363 m	20/9/2019	23/9/2019	-60°	000°	120.0 m





**Figure 7. Plan Map of Section 6 Drill Hole Collars and Traces.**

*The Empress Structure was interpreted to dip at a fairly shallow angle (~30°) to the south based on downhole intercept depths. Although a significant amount of sericite and pyrite alteration within the strongly foliated shear zone was observed in the drillcore, the assay results from samples returned very little associated gold (Table 4). Drill holes EMP-19-03 and EMP-19-04 were not logged or sampled."*

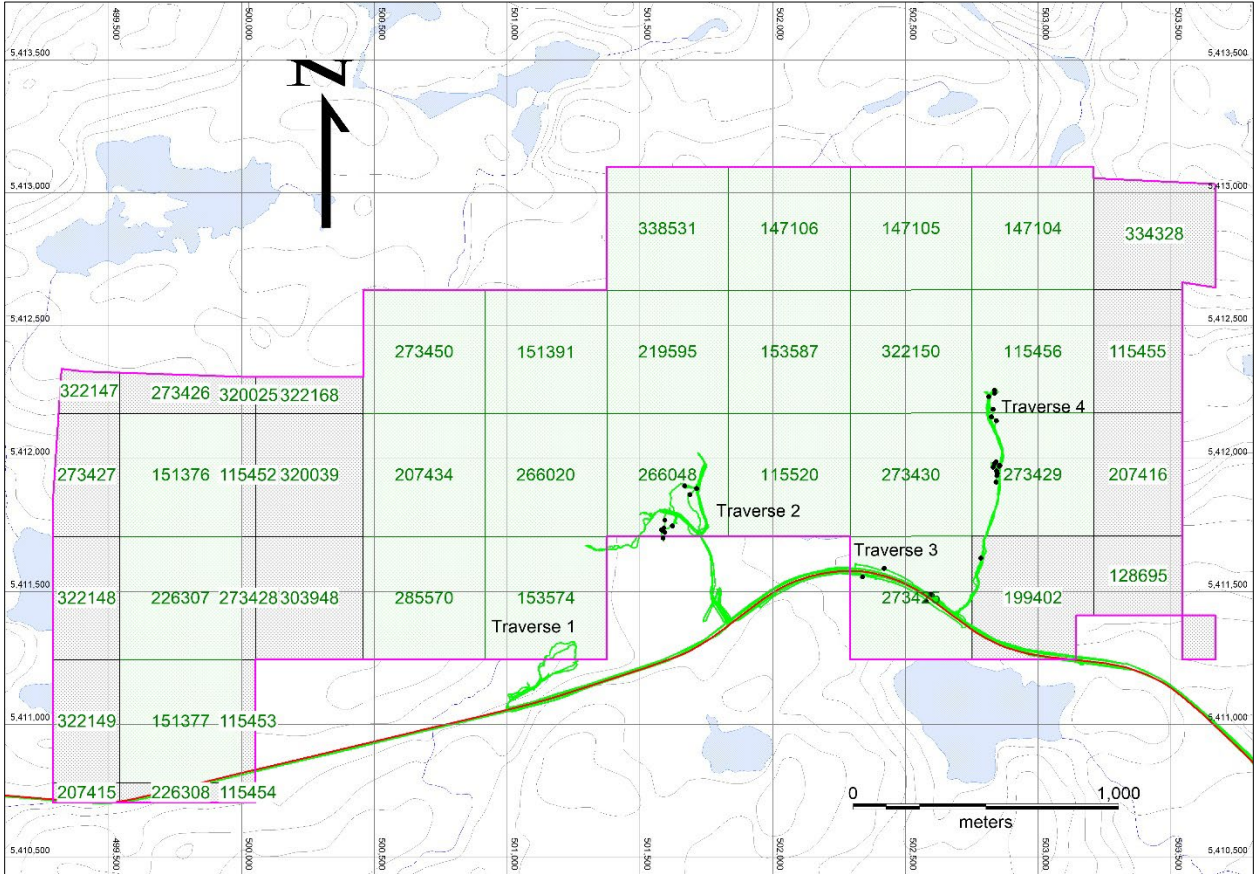
**Table 4. Drill hole intercepts with gold assays.**

Hole	From	To	Length	Au
EMP-19-01	15.2 m	16.0 m	0.8 m	0.3 g/t
EMP-19-01	19.1 m	22.0 m	2.9 m	1.7 g/t
EMP-19-01	43.0 m	45.0 m	2.0 m	0.6 g/t
EMP-19-02	37.0 m	40.0 m	3.0 m	0.6 g/t

# Current Exploration Work

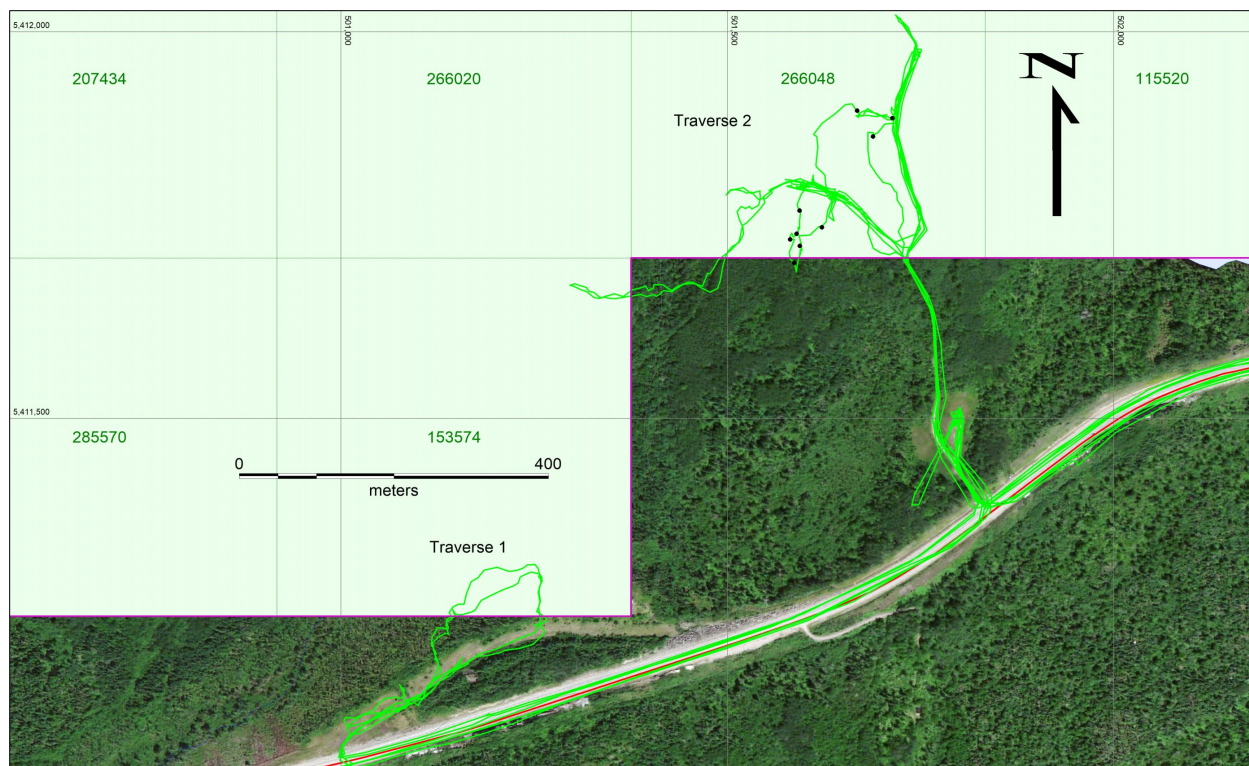
## Prospecting

KIVI Geoscience Inc conducted 2-days of prospecting on several claims of the Empress Project on May 18 and May 19, 2023. Kevin Kivi P.Geo and assistant Max Kivi were the prospectors. The crew drove daily from Thunder Bay to the property daily to perform this work. Four traverses completed over 2 days are named Traverse 1 & 2 (completed May 18, 2023) and 3 and 4 (completed May 19, 2023).



**Figure 8. Prospecting Traverses (green) and Waypoints (black dots) on Empress Claims (UTM NAD83z16).**

Traverse 1 (May 18, 2023): A short traverse commenced from the shoulder of HWY 17 to the northeast along a clearing where a portion of old HWY 17 to the south claim line of claim 153574 (Figure 9). We traversed north along the west side of a swamp, and followed high ground back to the west, looping back towards the parked truck. No outcrop was found and no samples were collected on Traverse 1. Traverse 1 cuts an area of low spruce swamp bordered to the north by a grassy flooded swamp.



**Figure 9. Prospecting Traverse 1 & 2 on claims 153574, 266020 and 266048.**

Traverse 2 (May 18, 2023): An old road, passable with 4WD pickup for about 600 m extends north from HWY 17. A flat grassy area is apparent some 50m north of the highway, and the road extends to a fork, which can be driven to the west or east for another 150 m or so where we parked the truck.

On the west fork there is no outcrop, but several pits in overburden which may be a result of mineral exploration, but clearly there were also borrow pits for road building. The area is high ground with wide-spaced poplar and mixed bush. Lower alders are also growing quickly in all the former clearings, pits and trenches. There is garbage in the area, including an old chimney, likely from an old drill camp some 40 years ago.

On the east fork and between the driveable trails is an old drill or forestry trail that extends north and then bends east. At the east end of this trail a drill collar was found.

The drill collar (Waypoint DDH1) is oriented due north (Azimuth  $360^{\circ}$ ) with  $-60^{\circ}$  plunge. The collar does not correspond to historical collars stored in the Ontario Drill Hole Database. The closest historical drill hole, 4410-87-5 is located about 200m NE of Waypoint DDH1. The collar suggests that historical drilling on the property may be mislocated in databases, or additional drilling was conducted on the property that was not reported.



**Figure 10. Old drill collar located on Traverse 2.**

A southerly traverse through the forest between the NW and NE forks of the road where an outcrop (Waypoint GD1) of granodiorite was found. The outcrop rises about 1.5 meters above the generally flat, dry terrain which is a spruce, poplar and birch forest with lower alders and moose maple. No quartz veining or mineralization was noted, and no samples were collected on Traverse 2.

East of Traverses 1 & 2, another trail extends to the north from Highway 17. This trail is flagged as an active trapper's trail, and has a trench dug across the entrance at HWY 17 which will not allow a 4WD truck to pass so we walked. Several tree martin boxes are located alongside the trail with fresh balsam boughs inside, which suggest trapping occurred recently.

We parked at the intersection of the Trapper trail and HWY 17 and conducted two traverses from the parked truck: Traverse 3 and 4.



**Figure 11. Traverses 3 & 4 on mining claims 273425, 199402, 273429 and 115456 (north of 273429).**

Traverse 3 (May 19, 2023) follows HWY 17 west from the parking area on the north side of the highway, then loops back along the south side of the highway bisecting claim 273425.

There are large outcrops exposed on both sides of the highway that consist mostly of granite. The first outcrop west of the pickup truck on the north side of the highway has One outcrop has a diabase dike at the west end (Waypoint D3) which is also mapped on the south side of the highway (Waypoint D4). About 50 m east of the diabase is a narrow biotite lamprophyre dike (Waypoint L1). All the other outcrops are massive, unaltered biotite granite. No quartz veining or alteration was noted, and no samples were collected.

Traverse 4 (May 19, 2023) follows the Trappers trail north from HWY 17 on claim 273425, then through boundary claim 199402, claim 273429, terminating at a small lake on claim 115456.

About 100m from the highway is a grassy clearing, likely for loading haul trucks, and then proceeds north with a steep climb between a ridge to the west and a south-flowing creek to the east. The trail has a culvert where a tributary passes beneath on claim 273429 near a tight cluster of outcrops of granite, volcanics and fine-grained diabase. Traverse 4 terminates at a small lake surrounded by volcanic basalt outcrops about 100m north of the south boundary of claim 115426.



**Figure 12. Small lake surrounded by outcrop at end of Traverse 4.**

The geology along the trail starts in granite to the south, and then crosses into mafic volcanics, diabase and intermediate volcanics. Most of the outcrops were already broken in places by prior prospectors and mappers. One old sample site: 744326, marked by flagging tape was found midway along Traverse 4. The previous sampler was testing rusty volcanics with trace pyrite and pyrrhotite.

No quartz veining or alteration of any significance was noted on Traverse 4, and no samples were collected.

While on the traverse, GPS waypoints and notes were collected, which are presented in Table 5 and plotted on a larger scale map in the appendix of this report. GPS instruments used in this work was a Garmin GPSMap76Csx and a GPSMap64st using NAD83 datum.

**Table 5. Prospecting Waypoints and Notes.**

<b>E_NAD83z16</b>	<b>N_NAD83z16</b>	<b>ELEVATION</b>	<b>Waypoint</b>	<b>NOTES</b>
501668	5411898	305	DDH1	Azim 360, -60 plunge, NW casing.
501713	5411888	301	ROAD	Road to NE with camper and skidder 100m away
501688	5411865	306	GD1	Granodiorite, chloritic, medium grained, no quartz veining
501622	5411747	307	GARBAGE	Old cans probably from a drill camp
501594	5411723	304	PIT1	4m by 5m 2m deep pit in overburden, no outcrop

<b>E_NAD83z16</b>	<b>N_NAD83z16</b>	<b>ELEVATION</b>	<b>Waypoint</b>	<b>NOTES</b>
501586	5411702	303	T1	Start of 50 m long 4m wide and 2m deep trench in overburden, no outcrop but 1m diameter boulders present
501581	5411732	301	T2	End of trench
501590	5411739	303	PIT2	6m by 10m water-filled pit in overburden
501593	5411769	302	PIT3	30m by 50m borrow pit for road building
502783	5411626	250	G1	Granite outcrop on west side of trail
502840	5411912	286	V1	Mafic volcanic, strongly foliated, amygdaloidal
502844	5411937	289	V2	Dacite, fine grained, rusty joints - likely Diabase on review
502846	5411946	287	V3	Same as V2
502843	5411954	289	744326	Old sample site of dacite with trace pyrite
502830	5411968	291	V4	Basalt, weak epidote, beside stream
502835	5411982	294	G2	Biotite granodiorite, medium grained, trace pyrrhotite
502841	5411988	295	G3	Same as G2
502853	5411971	291	D1	Diabase, aphanitic, massive, trace pyrrhotite
502856	5411975	289	D2	Diabase, fine grained trace pyrrhotite and chalcopyrite
502842	5412143	306	V5	Basalt, foliated
502824	5412158	306	V6	Basalt, foliated
502829	5412186	309	V7	Basalt, trace pyrrhotite, foliated
502813	5412234	318	V8	Basalt, 2m x 3m outcrop on trail
502835	5412247	319	V9	Basalt
502836	5412257	319	V10	Basalt outcrop on lake
502600	5411487	250	L1	Biotite lamprophyre dike, 45 cm wide, subvertical, fine grained oriented at 200-70 (RHR)
502594	5411492	250	D3	Diabase dike, 2.5 m wide, with minor calcite veining in foliated/sheared NW contact

<b>E_NAD83z16</b>	<b>N_NAD83z16</b>	<b>ELEVATION</b>	<b>Waypoint</b>	<b>NOTES</b>
502419	5411588	258	G4	Biotite granite, medium grained, massive
502338	5411556	262	G5	Biotite granite, medium grained, massive
502577	5411464	247	D4	Diabase dike, > 2m wide on south side of highway - on strike with D3

## Costs of Current Work and Report

Four areas were prospected on the Empress Property on May 18 and May 19, 2023 by Kevin Kivi P.Geol. and assistant Max Kivi. Out of pocket expenses were paid by KIVI Geoscience Inc and invoiced to Sanatana Resources Inc in one all-inclusive invoice of man days, vehicle mileage, gas, and expenses.

The vehicle mileage rate used in Table 6 is \$ 0.58 per kilometer.

KIVI Geoscience Inc is required to charge HST on all costs presented in Table 6.

All costs and work claimed in this report is related to prospecting, which is an early exploration activity. All field work was conducted on various mining claims of the Empress Project. Adjacent land was crossed to access the property, but no work was completed on adjacent land.

The report was written using a PC with MS Word, and all maps were generated in GIS using MapInfo. The GPS instruments were downloaded using Garmin BaseCamp. Some of the figures used in this report are from prior reports submitted by Sanatana Resources Inc.



**Table 6. Prospecting Work and Report Costs (not including HST charged by KGI).**

Date	Worker	Description	Office Work	Field Work	Vehicle	Km logged	Vehicle Cost	Gas	Expenses	Comments
2023-05-18	Kevin Kivi P.Geol.	Prospecting Empress		\$ 880.00	Tundra	489	\$ 283.62	\$ 60.29	\$ 6.06	Maps
	Max Kivi	Prospecting Empress		\$ 200.00				\$ 67.95	\$ 126.63	Meals and Groceries
2023-05-19	Kevin Kivi P.Geol.	Prospecting Empress		\$ 880.00	Tundra	476	\$ 276.08	\$ 74.01	\$ 42.86	Meals
	Max Kivi	Prospecting Empress		\$ 200.00				\$ 50.97		
2023-05-20	Kevin Kivi P.Geol.	Technical Report	\$ 880.00							
2023-05-21	Kevin Kivi P.Geol.	Technical Report	\$ 880.00							
			<b>\$ 1,760.00</b>	<b>\$ 2,160.00</b>			<b>\$ 559.70</b>	<b>\$ 253.22</b>	<b>\$ 175.55</b>	
		<b>GRAND TOTAL</b>								<b>\$ 4,908.47</b>

# Conclusions and Recommendations

Sanatana optioned the Empress Project from Alto Ventures in 2017 and completed the option to own 100% of the property by 2019. The Empress Project is subject to certain NSR Royalties described earlier in this report.

The Empress project is host to many gold showings and is adjacent to a historical past gold mine known as the Empress Gold Mine which produced 112 Troy ounces of gold with a historic grade of 0.10 ounces per ton gold. Mineralization on the adjacent mining lease does not imply similar mineralization is present on the Empress project.

KIVI Geoscience Inc was asked on short notice to perform prospecting and to write a technical report to cover assessment work required on a small group of mining claims within the Empress Project with a due date of May 21, 2023.

Sanatana does not have an active work permit or plan on the Empress Project, and therefore only below-threshold work could be conducted. KGI had no time to research the project prior to the field visits and did not review prior assessment reports on file until report writing had commenced.

Gold mineralization is present in both the Terrace Bay batholith, and volcanics of the Schreiber-Hemlo Greenstone belt of the Wawa Subprovince. Gold is present in quartz veins and the pyritic sericite schists that host the veins in metavolcanic rocks. The author concludes that current gold showings suggest that orogenic gold mineralization is at play, and likely structure is important to gold emplacement.

The author concludes that there remains good potential to discover new gold occurrences or extend those already known. Sanatana previously performed structural analysis and compilation to map structures. The author recommends systematic exploration of these structures for gold.

Sanatana previously explored Section 6E of the Empress Structure, which trends NE from the old Empress Mine and dips  $-30^\circ$  to the south. Sanatana has drilled for holes for 402m targeting Section 6E in September 2019 and mentions this work in a company MD&A from December 2019. This work is 44 months old at the time of this report. The author found no record of this work in OAFD or ODHD databases, and suspects this drilling was not filed as assessment work by Sanatana.

The author recommends that Sanatana complete an assessment report on prior drilling, conducted 44 months ago, prior to the 60-month anniversary when the work will no longer be valid as assessment work. Since this work is more than 24 months old but less than 60 months, 50% of the original cost will apply. The report will provide assessment work to a group of claims with July 2023 due dates on the property.

The author recommends consultation with Biigtigong Nishnaabeg, surface rights owners, and the active trapper on the property if they plan to apply for a new exploration permit and conduct more exploration on the Empress Project.

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# Certificate of Author

**Kevin Robert Kivi, P.Geol.**

## **KIVI Geoscience Inc.**

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**Mobile (807) 624-6156 Email: [kivigeoscience@gmail.com](mailto:kivigeoscience@gmail.com)**

I Kevin Robert Kivi, P.Geol., am a Professional Geoscientist, employed by KIVI Geoscience Inc., of Thunder Bay, Ontario.

I am:

- a practising member of the Association of Professional Geoscientists of Ontario (PGO), Registration 0326;
- a member of the Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories (NAPEGG), Registration L821;
- A member of the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS), Registration #13687.

I graduated from Lakehead University, Thunder Bay with a Bachelor of Science Geology (4-year program) in 1983, and I have practiced in my profession continuously since 1983. Since 1983 I have been involved in:

- gold exploration with Ovaltux Inc. along the Cadillac Break in Rouyn and Val D'Or, Quebec in winters of 1984, 1985 and 1986, and between 1986-1988 in NW Ontario.
- diamond exploration with BP Resources Inc – Selco Division in Ontario, Quebec, Manitoba and NWT in summers of 1984, 1985 and 1988;
- gold and base metals exploration in NW Ontario with Rio Algom Exploration between 1988 and 1992.
- diamond exploration with Kennecott Canada Exploration between 1992-1994 at Lac De Gras, NWT, Diamond Laboratory Manager between 1995-2000 in Thunder Bay, Ontario, diamond exploration 2000-2004 in Wawa in Archean lamprophyric volcanoclastic rocks and Group 2 kimberlites, March-June 2004, Exploration Manager at Diavik Diamond Mines Ltd, Lac De Gras, NT.
- 2004 to present: Geological consultant specializing in diamond, gold and base metal exploration in Finland and Canada. Current clients include Santana Resources Inc., Aurion Resources Inc., VR Resources Ltd., and Orebot Inc.

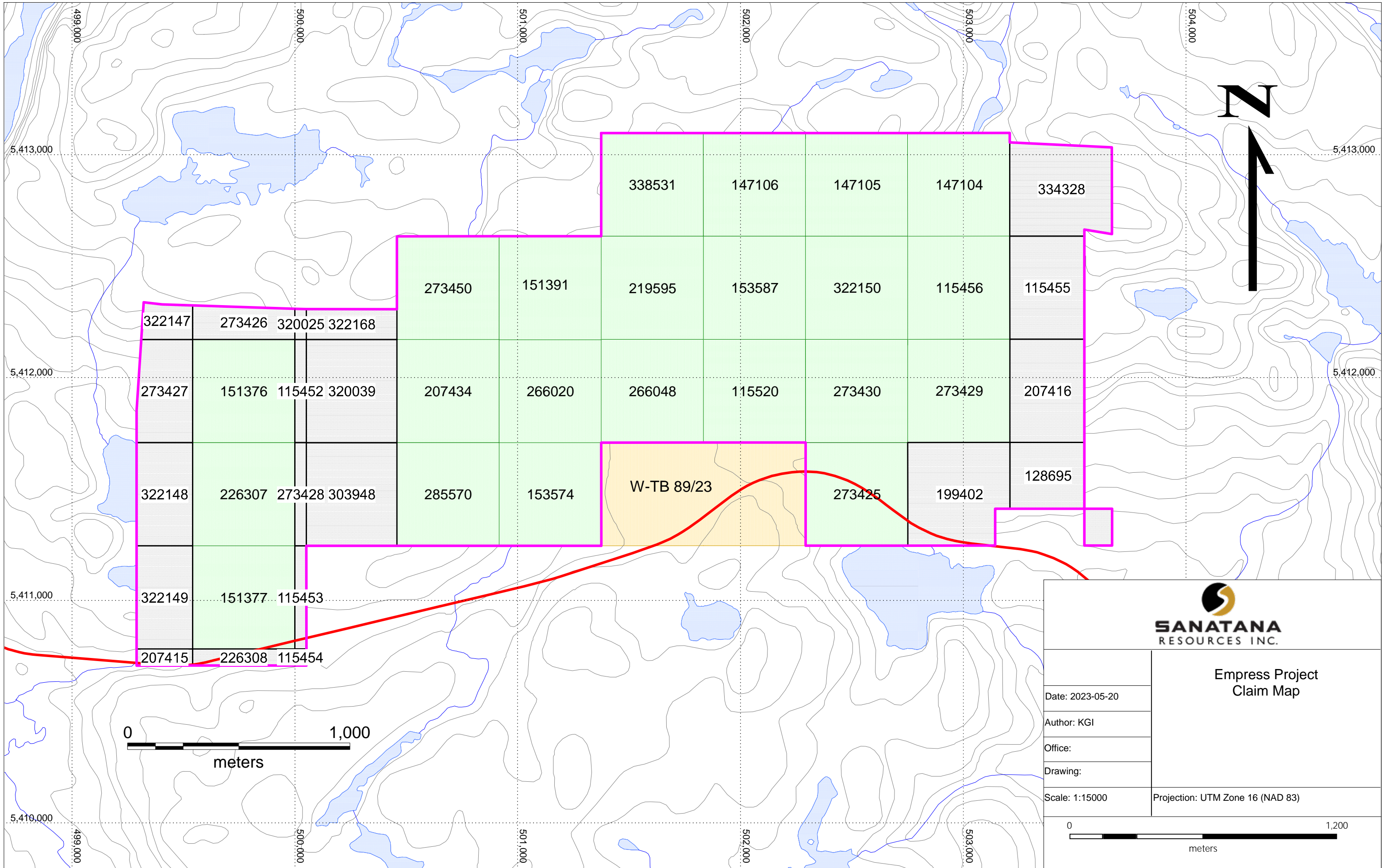
KIVI Geoscience Inc. (KGI) continues to work as a geological consultant for Santana Resources Inc. in 2023. KGI reviewed the Empress Assessment Report and Maps and is responsible for their technical content.

Dated at Thunder Bay, ON, CANADA this 21st day of May 2023.

KIVI Geoscience Inc.

Per: "Kevin Kivi" (signed)  
Kevin R. Kivi, P.Geol., President





**Empress Project  
Claim Map**

Date: 2023-05-20

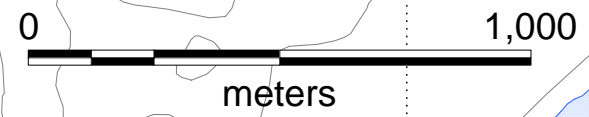
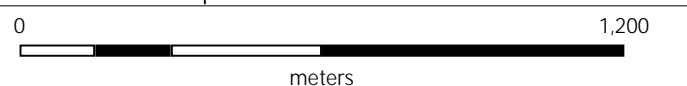
Author: KGI

Office:

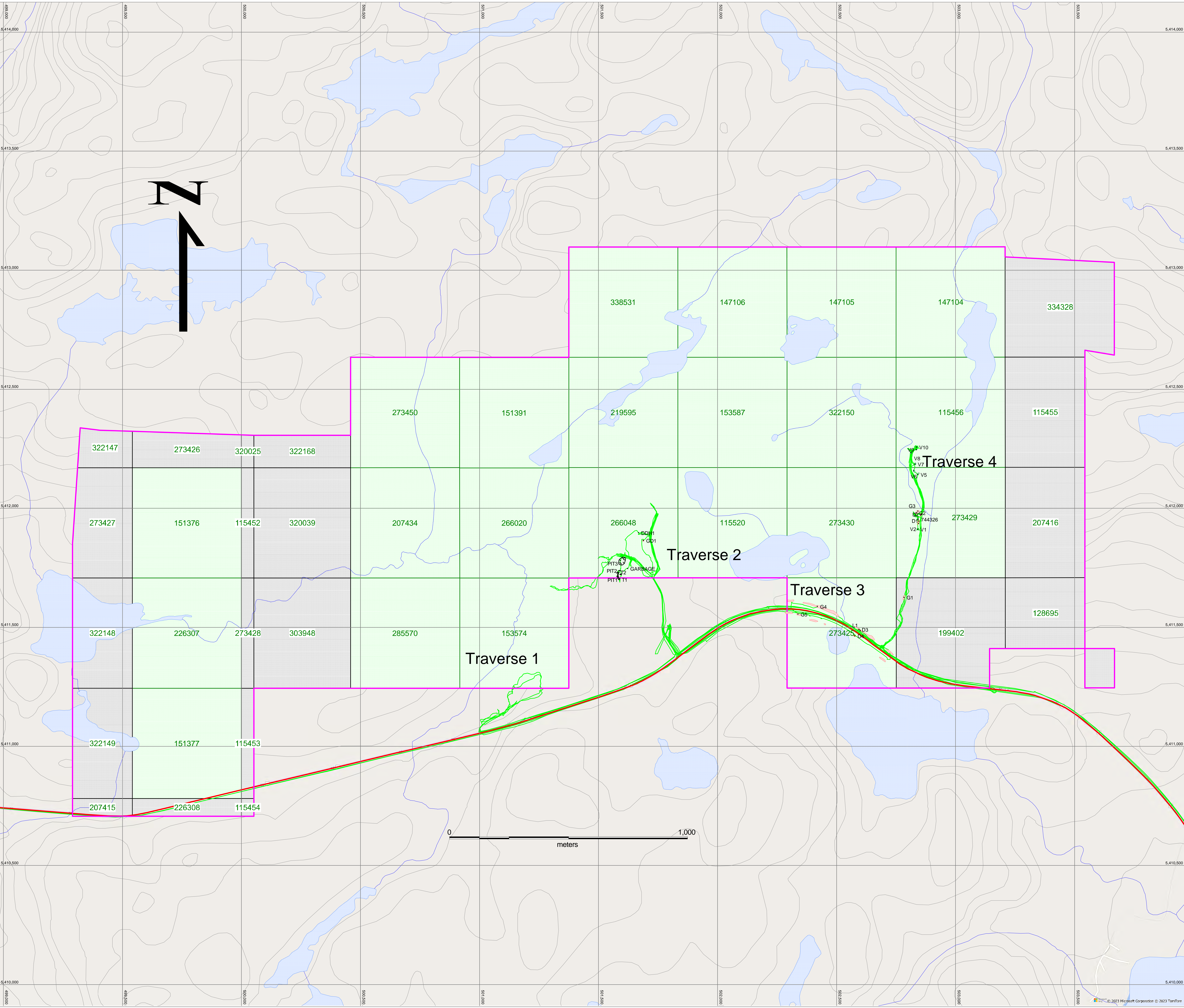
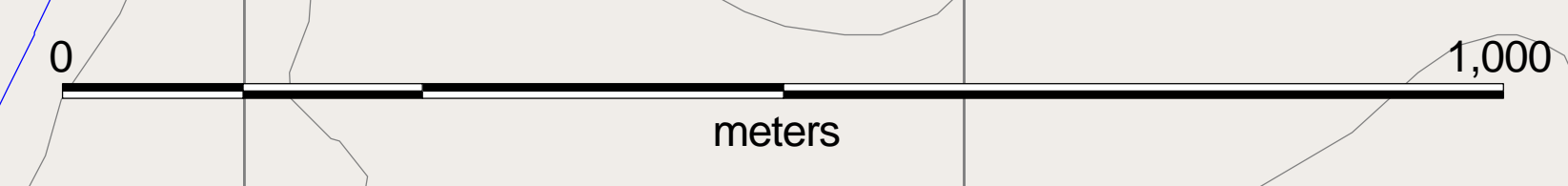
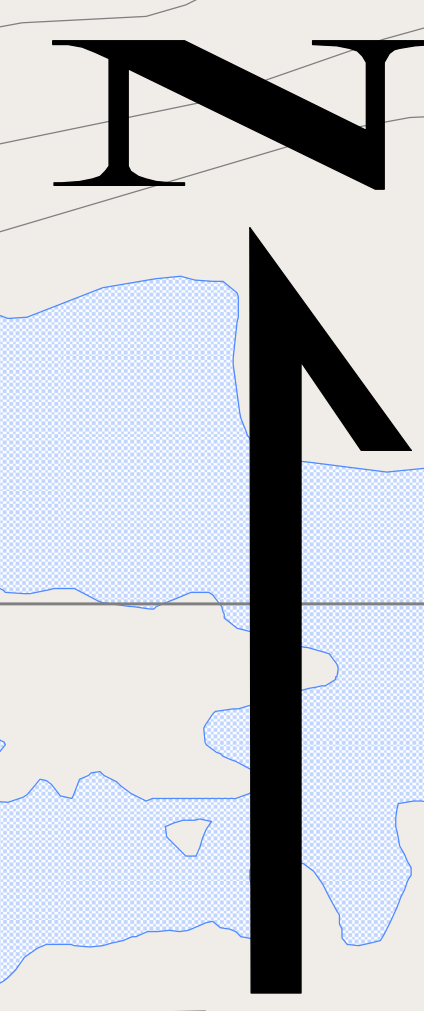
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Scale: 1:15000

Projection: UTM Zone 16 (NAD 83)



- LEGEND**
- Prospecting Tracks
  - Prospecting Waypoint
  - Volcanic
  - Diabase
  - Granite
  - Pits
  - Gridline
  - Empress Property Border
  - Highway 17
  - Boundary Cell Claims
  - Single Cell Claims
  - Watercourse
  - Trail
  - Contour Line
  - Waterbody
  - Waterbody 2



**SANATANA RESOURCES INC.**

Prospecting Map  
Empress Project

Date: 2023-05-21  
 Author: KGI  
 Office:  
 Drawing:  
 Scale: 1:5000  
 Projection: UTM Zone 16 (NAD 83)

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