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SANATANA RESOURCES INC.

EMPRESS PROJECT

ASSESSMENT REPORT

on 2019 Diamond Drill Program

Jackfish Lake Area

Terrace Bay, Ontario

July 10, 2023

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KIVI Geoscience Inc.

SANATANA RESOURCES Inc.

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Summary

Sanatana's Empress Project (Property) is 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. Sanatana was granted Exploration Permit PR-17-11157 in 2018 (expired April 22, 2021) and performed field work in 2018 and 2019 while this permit was valid.

Sanatana first worked on the rugged Empress Property in fall 2018 clearing and upgrading an old access trail to Area 6E, then scouting the area for potential drill pads and access trails between them, and finally building the drill pads and access trails. This work was cut short with the onset of winter. Sanatana spent 16 days in the field in 2018 completing this work.

In 2019 Sanatana returned to the Empress property and drilled four BTW core holes for 402m targeting Empress Area 6E and utilizing trail and pads prepared a year earlier. During both field terms the company operated from Jackfish Cabins located east of Terrace Bay near the Empress Property. In 2019 Sanatana logged two of four drill holes at Jackfish Cabins and then departed. Sanatana spent 31 days in the field in 2019 to perform this work. Sanatana stored logged and unlogged drill core in a secure yard behind Jackfish Cabins on a core rack. All four drill holes were completed on mining claim 153587.

The objective of 2018 and 2019 work was to test the Empress Zone in Area 6E at depth and follow-up on significant gold assays recovered on surface by stripping and channel sampling results obtained by Cameco in 1999 and Alto Ventures in 2012. 2018 and 2019 work was performed by Troy Gill, Exploration Manager of Sanatana (until 2020) and Wayne Richards of Richard's Exploration from Terrace Bay. Work was performed for Sanatana, who rehabilitated the drill sites to industry standards on completion of the field program.

In May 2023, Kivi Geoscience Inc (KGI) completed a prospecting report for Sanatana on the Empress Property, and during research for the report found no record of Sanatana's 2018 and 2019 drill work in OAFD or ODHD databases. KGI alerted Sanatana that previous drilling was not filed as assessment and recommended that Sanatana complete core logging and related work, and file a technical report on past drilling on Empress mining claims. Work older than 24 months old would be discounted by 50% but 2023 work to retrieve core, log it and write a report would earn full assessment credit. KGI estimated this work report would provide several years of assessment credit on the Empress Property.

In 2020, Sanatana completed an expenditure report to partner Alto Venture (Gill, 2020) but failed to modify this report for assessment. This company oversight likely occurred due to loss of key personnel, followed by distraction due to the Global Pandemic.

In May 2023 Sanatana asked KIVI Geoscience Inc to retrieve Empress 2019 drill core from Terrace Bay, re-log drill core, generate x-sections, maps and a report and file this field work as assessment on mining claims of the Empress Property.

KGI retrieved drill core on June 3 and 4, 2023 (4 man-days), then logged the core at its shop in Thunder Bay, generated a drill database, sections, and plans and wrote a technical report in June and July 2023. KGI performed this work for Sanatana Resources Inc.

KGI re-logged holes EMP19-01 and EMP19-02 and observed VG (visible gold) in sawed core from hole EMP19-02. KGI recommends that gold-bearing intervals are quartered and assayed using a total metallics method. KGI also recommends re-assaying certain pulp rejects from earlier sampling of these holes.

KGI logged hole EMP19-03 and EMP19-04 (both holes previously not logged) and found the Empress Zone to be thick and present in both holes. In hole EMP19-04 a second zone located some 20m below the Empress Zone has a laminated crack and seal quartz vein that suggests good potential for additional gold mineralization. KGI recommends sawing and sampling all mineralized drill core cut by EMP19-03 and EMP19-04. Samples with crack and seal quartz veins should be assayed using a total metallics method.

Empress Zone is a ductile deformation zone that extends for 1.8 km on the Empress Property which has demonstrated good widths of gold mineralization in altered and mineralized thinly bedded siltstones, which are sometimes graphitic and strongly sheared to mylonite locally. Laminated crack and seal quartz veins are present in the Empress Zone and VG (visible gold) and sulphides (pyrite, pyrrhotite, chalcopyrite, sphalerite, and molybdenite) have been reported. Sheared, silicified and sericite altered wallrock is also mineralized with sulphides also reports gold assays locally.

KGI also recommends a desktop study with complete digitization of all historical work on the property, and then ground-checking and resampling certain gold showings along the Empress Zone, especially when bedded chert and siltstone is abundant.

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

Sanatana and KGI use Universal Transverse Mercator (UTM) co-ordinates in Datum NAD83, Zone 16N. All maps and sections in this report were created using 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 that is accessible with 4WD truck or all-terrain vehicles with some brushing and clearing of fallen trees.

The trail that extends north from Highway 17 was upgraded to allow mobilization of the drill to the top of Empress Hill at Area 6E. The trail is currently flagged and used as an active trapline which will help keep the trail open for future work.

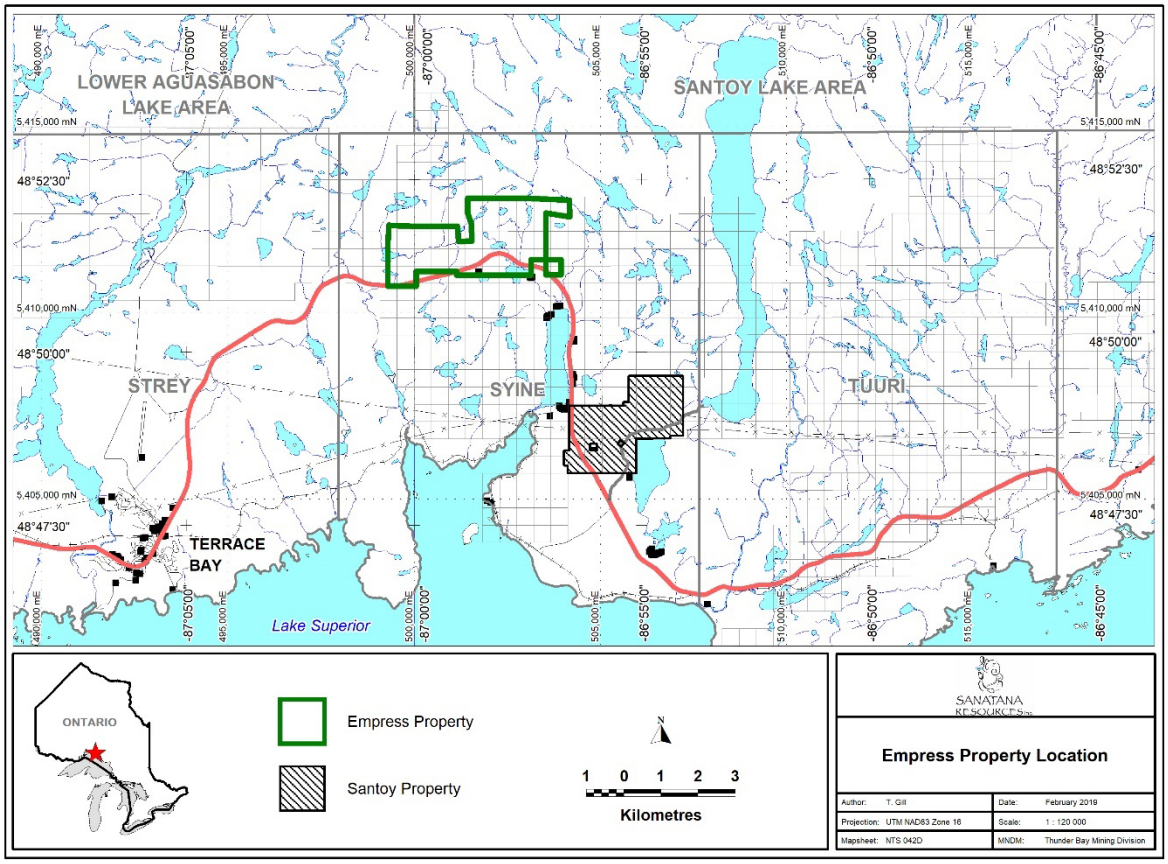

Figure 1. Key Map of Empress Project relative to Terrace Bay, NW Ontario.

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.

Topography consists of steep hills and ridges flanked by rock cliffs and steep ravines, sometimes occupied by beaver ponds and swamps with west-east orientation. Empress Hill is a prominent feature visible from Highway 17 that rises to 410 m elevation.

Vegetation includes spruce, white birch, balsam fir, and small amounts of trembling aspen. Undergrowth is moderate to thick consisting of mountain maple and young conifers. Low-lying areas from the foot of Empress Hill towards Christie Lake were previously clear cut by logging operations and now are covered by sparse white birch, young balsam fir, and thick moose maple making prospecting of these areas difficult and unpleasant (Sampson, 1999 and Koziol, 2006).

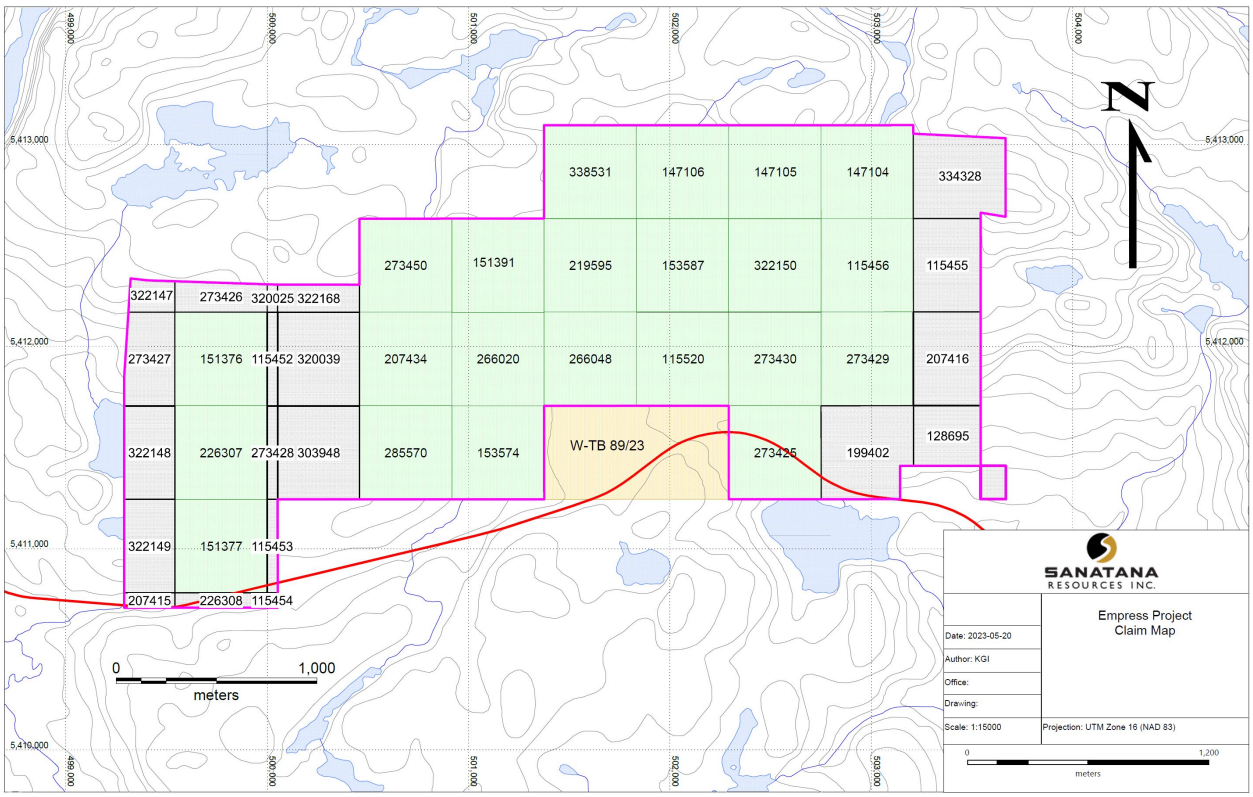

Figure 2. Mining Claims of the Fortune Project (UTM NAD83z16)

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

On June 8, 2023, two claims under relief from forfeiture were re-instated by Order MIL 17-5 40/23 by the Minister of Mines and provided with an extended due date of September 17, 2023 to perform or apply assessment work. These two claims replace Alienation W/TB 89/23 in Figure 2.

Tenure ID	Original Due Date	Extended Due Date	Next Due Date
151374	2023-05-17	2023-09-17	2024-05-17
285551	2023-05-17	2023-09-17	2024-05-17

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 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.

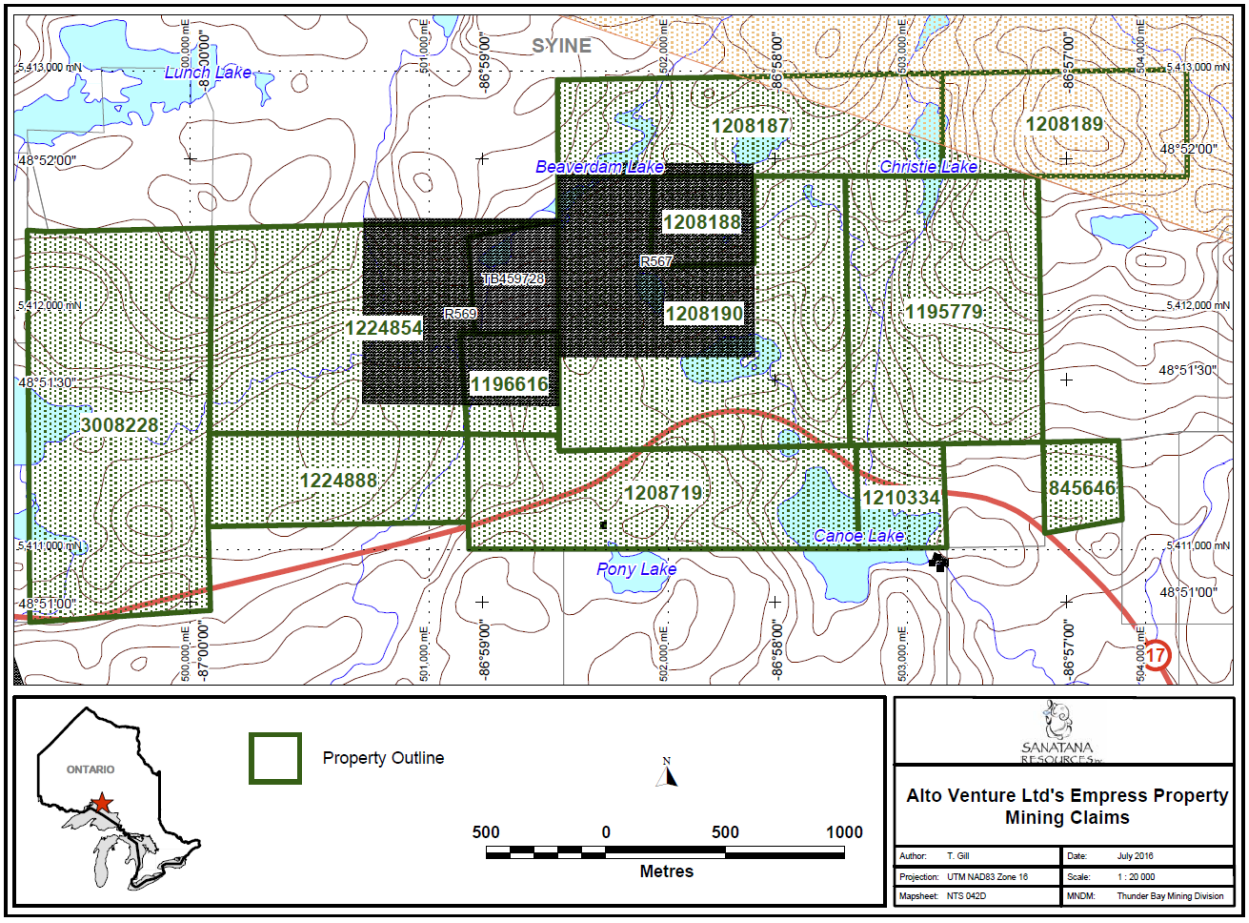

Figure 3. Alto Ventures Empress Property Map showing legacy claims and Surface Rights Owners.

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.

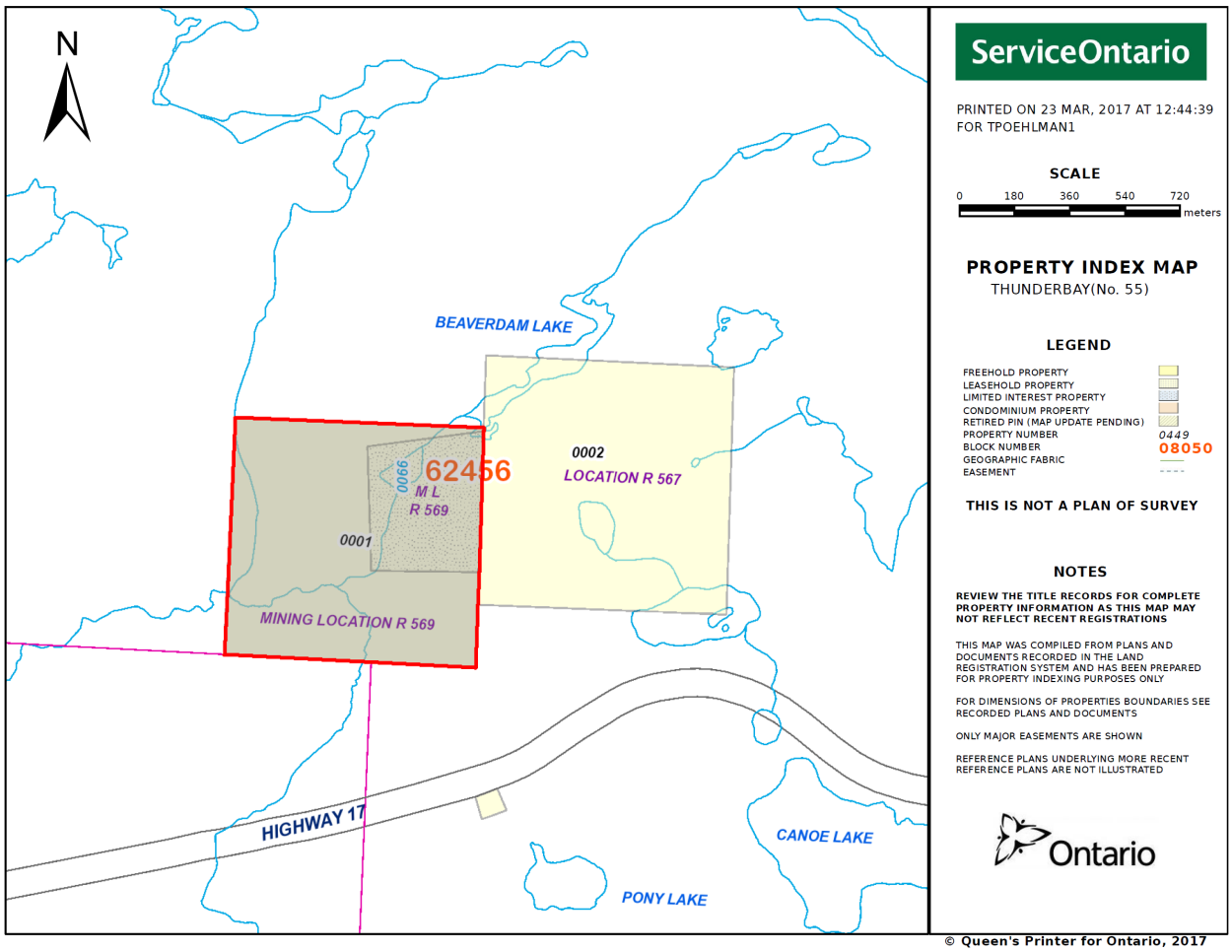

Figure 4. Surface Rights Owners that overlap Empress Project.

Permitting

Sanatana was granted Exploration Permit PR-17-11157 in 2018 and this permit expired on April 22, 2021. A delay resulted from one local First Nation community, but eventually the exploration permit was granted. Receipt of the Exploration Permit prompted Sanatana to prepare for drilling in 2018 and conduct a drill program in 2019, described herein.

Sanatana had correspondence with Biigtigong Nishnaabeg and Metis Nation prior to 2019, and talk between parties since that time is unknown. Sanatana has not applied for a new exploration permit but may do so in future.

Flagging on Beaverpond Lake trail and fresh martin boxes indicate an active trapline is present on the Empress property.

Regional Geology

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 Empress Property.

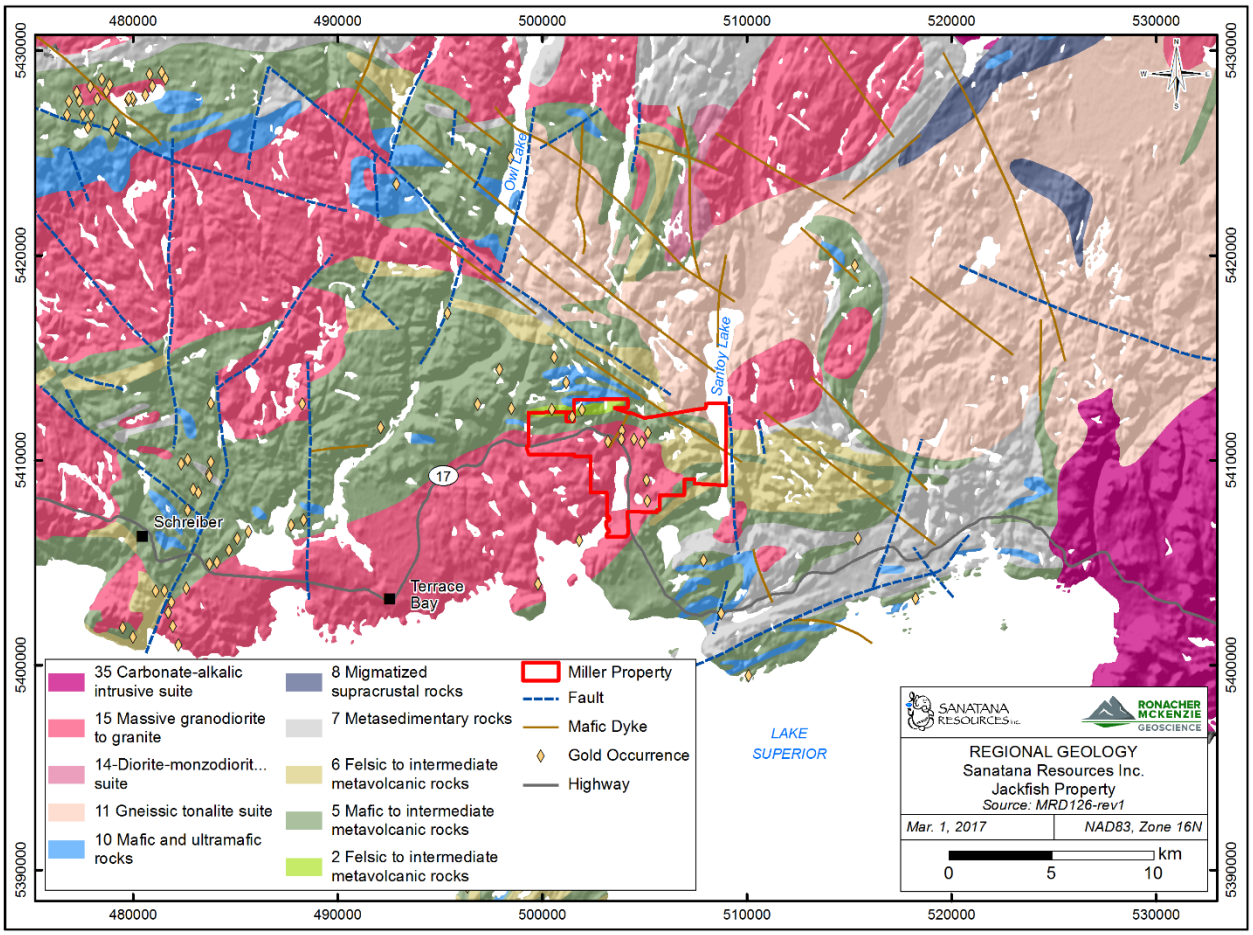

Figure 5. Regional Geology of Sanatana's former Jackfish Project (from Ronacher, 2017)

The Schreiber portion of the belt is about 70 km long and 25 km wide, and the Empress Property occupies a portion of this belt that is within the northern limb of a large, regional anticlinal fold referred to the Big Duck volcanic belt by Walker (1967) which is cored by the Crossman Lake Batholith.

Volcanic rocks of the Schreiber-Hemlo belt consist of calc-alkalic pyroclastics, breccias, tuffs, flows, porphyritic flows, schists and gneisses, iron-rich tholeiites, pillowed and massive flows, tuffs, schists and gneisses. Metasedimentary immature clastic sediments include graded turbidites, mudstone schists, paragneiss, minor conglomerates and iron formation. Numerous intermediate to felsic plutonic rocks intrude supracrustal rocks like the Terrace Bay batholith which dominates the southern part of the Empress Property. This intrusive complex, locally known as the Jackfish Lake batholith consists primarily of granite to granodiorite, and some dioritic phases.

Proterozoic rocks include diabase dikes and sills, lamprophyre, and to the east the Coldwell Complex, a large intrusion of alkalic and carbonate rocks.

Metamorphic grade of the Schreiber-Hemlo belt generally increases from lower-greenschist in the west to amphibolite-grade and upper-amphibolite facies to the east. Walker (1967) mapped an epidote-amphibolite/amphibolite isograd that extends around an eastward fold closure of a large anticline that coincides with the location of both Ursa Major and Empress historical gold deposits.

Structurally the Schreiber-Hemlo belt has undergone at least four periods of deformation. Ductile folding is prevalent in association with late, granitic intrusive rocks. Faulting is a prominent feature of the landscape, and ductile shear zones are common, sometimes hosting gold mineralization.

Property Geology

A folded and foliated sequence of metavolcanic basalts and felsic flows and tuffs intercalated with narrow cherty metasediments that trend roughly east-west and occupies the eastward fold closure of a regional anticline with a core of intermediate intrusive rocks that are north of the syn-tectonic Terrace Bay pluton, which occupies the southern half of the Empress property.

East -trending mafic to intermediate composition flows and tuffs that exhibit weak to moderate foliation which is defined by biotite and/or chlorite. South-younging pillows and related sediments have been mapped in the eastern part of the Empress Property. The dominant mineral assemblage of these rocks consists of plagioclase-quartz-biotite-chlorite. Epidote and hornblende are present, but rare and red garnet is sometimes present in mafic rocks. The alteration assemblage includes iron carbonate (ankerite) and chlorite, sometimes accompanied by pyrite that does not exceed 2% of rock volume.

Mafic to intermediate intrusive rocks include gabbro, diorite, and blue-quartz eye diorite. Composition is melanocratic, coarse-grained, massive to poorly foliated and consists of plagioclase-K-feldspar-hornblende-chlorite. Blue quartz eyes up to 3 mm occupy 2-3% of rock volume in blue-quartz diorite, and the intrusive is weakly mineralized with trace pyrite. Petrographic work suggests the blue quartz-eye diorite is a differentiate of gabbro, suggesting mafic to intermediate rock types are closely related.

A narrow sliver of graphitic quartz-sericite schist that extends almost continuously for 800 m along the contact between the Empress structure and mafic volcanics to the north. This argillaceous metasediment is 2-5 m thick, rusty brown to black, strongly sheared and oxidized and consists of alternating bands of quartz to quartz-sericite, sericite-graphite +/- biotite, pyrite, and carbonate.

Other metasediments mapped on the Empress Property include juvenile chert, siltstone, and locally banded iron formation that are intercalated with massive to pillowed basaltic lava flows.

The Empress Structure is a major deformation and alteration zone with a corridor of influence 50m wide (15-25 m at its core) that can be traced across the entire property from Empress Mine to Christie Lake, some 1.8 kilometres (Figure 6). The east-trending 20-30 m thick ductile deformation zone favours cherty metasediments within basaltic massive, amygdaloidal, and pillowed lava flows.

Biotite and sericite are dominant phyllosilicates that occupy 20-30% of rock volume and define prominent foliation at 068-40 (RHR) locally. The zone is locally fine-grained, mylonitic, strongly altered with silica and sericite, and commonly cut by laminated quartz shear veins that can be overprinted with folded sigmoidal quartz-feldspar veins within the deformation zone. Quartz veins are four metre-scale locally, and the schist associated with veining contains sericite, chlorite, carbonate, and quartz.

The Empress Structure and related quartz veins are locally strongly mineralized with pyrite, chalcopyrite, galena, sphalerite, and rare VG. The quartz vein system is exposed at numerous stripped areas, with trenches 10-20 m in length that returned gold assays in Empress Area 6E area as high as 0.478 oz/t Au with an average 0.137 oz/t Au from 17 grab and chip samples (Needham, 1996).

Intermediate to felsic hypabyssal rocks include felsite dikes and feldspar porphyry, that occur as narrow, < 2 m thick dikes most common near the Empress structure. These intrusive rocks deform to mylonite in the Empress structure and are sometimes confused with leucocratic volcanic and sedimentary rocks. A lamprophyre dike is present in stripped area 1E, and lamprophyre is reported in drill logs from holes that tested the Empress Structure.

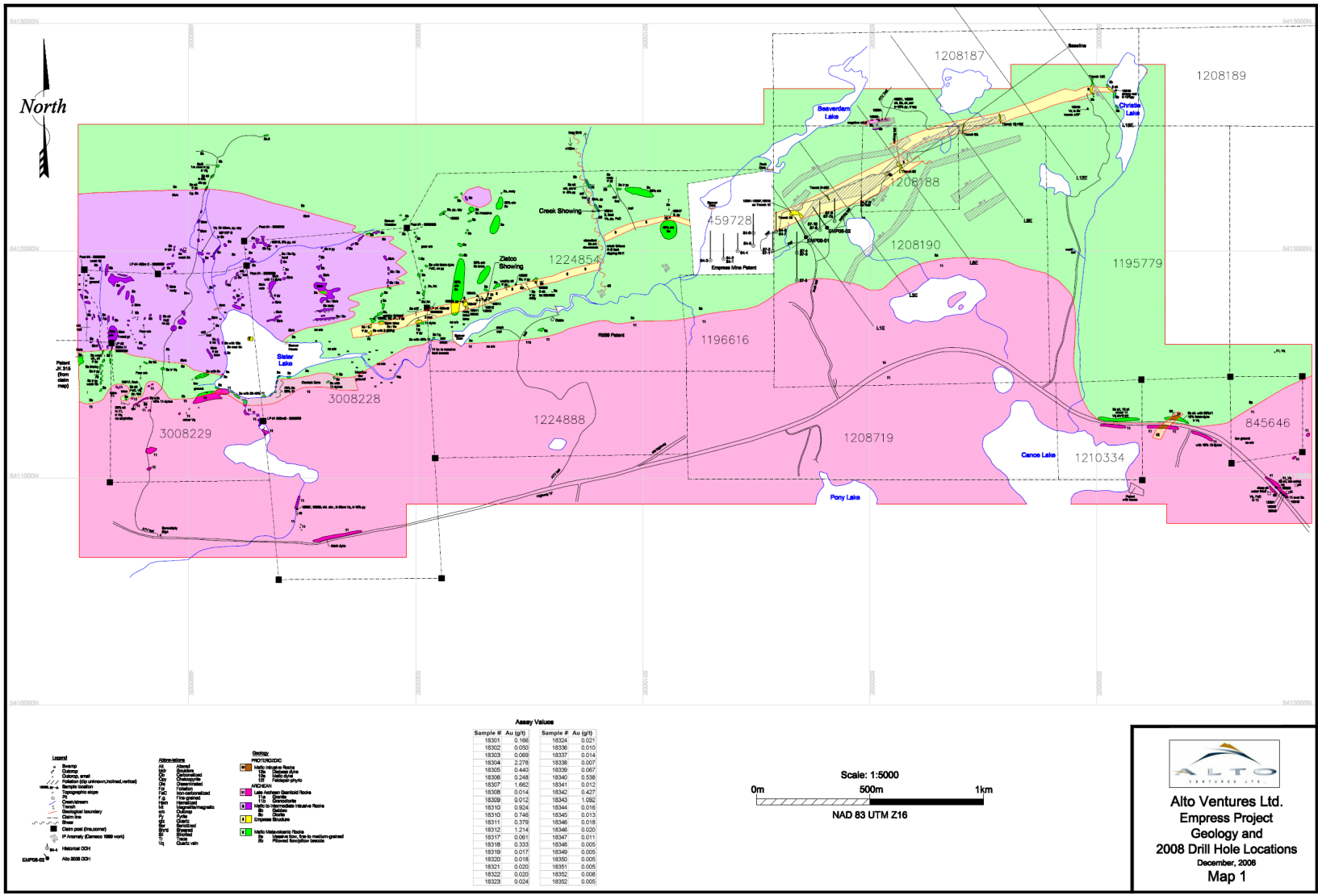

Figure 6. Empress Property Geology and Empress Structure (from Koziol, 2008).

Mineralization

The exploration target on the Empress property is Archean greenstone-hosted orogenic gold (previously referred to as lode gold or shear zone hosted gold). The Empress Structure, so named after the main trend of historical gold mineralization mined in the late 1800's at the Empress Mine is a deformation corridor up to 50 metres wide that strikes about 070° Azimuth with variable dip from -90° to -40° to the south for over 1.4 kilometres east-northeast of the old Empress mine.

Cameco Gold Inc (CGI) conducted a comprehensive exploration program exploring the Empress Structure that involved, stripping, channel sampling and re-logging and re-sampling of some 1800m of historical drill core completed by Micham Explorations (1984 and 1987). The names of various gold showing and areas of interest relate to the metric grid cut over the property. The origin of the grid (BL 0+00) is the shaft of the Empress Mine, and the grid extends at 54° Azimuth east of the origin, and 56.6° Azimuth west of the origin. The original grid was cut in 1997 for Landis Mining Corp. and McArthur Minerals Inc. in July of 1997. CGI extended this grid to the west, adding 16 lkm.

Recently GPS derived UTM co-ordinates have taken over field locating mineral showings, so for the benefit of those unfamiliar with line cutting grid co-ordinates, 10 +75E would translate to 1075 m grid-east (at 054° Azimuth) along the baseline from the baseline origin. Wing lines cut perpendicular to the baseline at 100 m centres are measured similarly grid-north or grid south, for example, L 10 E / 5 + 75 N is a point on the wing line 575 m grid north (Azim 324°) of the baseline along line 10+00 E, which is 1000 m grid east (Azimuth 054°) of the base line origin 0+00.

Samson (1999) provides a very good, firsthand description of the Empress Structure:

"The emplacement of the Empress Structure is defined by field observations during mapping, from historical drill core, and is also interpreted by geophysical signatures such as combined VLF, ground magnetics, and IP data (from previously filed assessment work). The deformation is characterized by a moderate to strong shear zone hosted by quartz-sericite schist, interflow sediments and mafic volcanic rocks, associated with mesoscopic folds, strong alteration (mainly silicification and sericitization), quartz veining, various dykes, and sulphidization. Shearing within this deformation zone appears slightly oblique to stratigraphy in places, and strikes at approximately 070 degrees, with fabrics dipping south at highly variable angles from subvertical to less than 50 degrees. Asymmetrical to complex folds were observed, and at least some of the fold closures observed at stripped area 6+00E suggest a gently plunging component to the fold axes towards the east-northeast, at 18 to 34 degrees. The presence of boudinaged quartz veins, and dismembered to folded sedimentary beds including late intrusive rocks, are all indicative of the strong intensity and prolonged activity of the deformation event. The petrographic examination of samples collected from the Empress Structure showed no evidence of mylonitization, but intense deformation, micro-folds, and even "tectonized" fabrics have been described" (Samson, 1999).

Alto Ventures conducted structural mapping east of the old Empress Gold Mine at Section 1E found a few fold closures with reliable plunging lineation rods oriented at 105° to 115°

Azimuth and plunging 043°. At Section 2+50E structural intensity is lower than 1E where an axial fold was measured at 050° Azimuth with -43° plunge, and lineations measured at 085° Azimuth and -42° plunge. At Section 6E an axial plane of a fold was measured at 085° Azimuth and -42° plunge and lineation rods measured at 125° Azimuth and -42° plunge. At Section 15E deformation and alteration is diminished compared to areas to the west, and no significant structural measurements were obtained other than two sets of micro-quartz veins with strike 082° Azimuth and -43° dip and 200° Azimuth and -70° dip respectively (Koziol, 2006).

CGI cut several rows of semi-continuous channel samples (84 samples) that returned anomalous gold (> 5 ppb Au) over the entire 40 m stripped zone, with anomalous gold within quartz-sericite schist of the Empress Zone. Values obtained from 1999 CGI channel sampling were 2.24 g/t Au and 1.39 g/t Au over 0.45 m. CGI obtained a grab sample in Area 1E that returned 66.93 (42.43 repeat) g/t Au, and historical samples from this area returned 114 g/t Au according to assessment files.

CGI re-logged and re-sampled 12 drill holes (1800 m) from Micham (1984 and 1987) drilling and obtained anomalous gold values > 100 ppb Au in all drill holes but one. Most drill holes were shallow, sampling the Empress zone < 100m vertical depth. Observations of drill core was consistent with those at surface and intercepts suggest the Empress Zone has a shallow dip to the south.

CGI re-sampling of Hole 84-7 averaged 480 ppb Au over 41 m including 2.53 g/t Au over 7.62 m compared favourably to Micham's assay of 1.52 g/t Au over the same 7.62 m interval. Micham's drill hole 84-8 undercut this zone at 50 m vertical depth and returned a single historical assay of 44 g/t au over 0.6 m (Simunovic, 1987) that could not be re-sample by CGI as this core was missing from the core library.

Empress Area 1E

CGI stripped an area 50 m x 40 m to better expose four historical trenches dug in the 1930's. The Empress zone here is a 15m wide zone of intensely deformed and altered quartz-sericite schist bound by massive, weakly to moderately foliated mafic lava flows that are weakly carbonated. To the north is a 6m thick sequence of dark grey to black argillite schist that is locally graphitic, moderately chloritized interpreted to be former interflow sediments. The sediments grade southward to quartz-sericite ± biotite ± carbonate schist, 8-10 m thick that is highly sheared, deformed, silicified, and sericitized and accompanied by pervasive quartz ± iron-carbonate stockwork veins. The rocks are weathered light grey to beige, to rusty brown, are locally strongly oxidized, and contain <1-2% pyrite up to 15% locally, and traces of chalcopyrite (Samson, 1999).

Empress Area 2E

A small 5m x 2m stripped area exposed strongly altered and deformed diorite dike that are bleached to grey-white with rusty patches and a narrow (<1m) quartz-sericite schist with irregular quartz veinlets and stringers (2-3%) with less than 1% pyrite as wispy disseminated grains. Five grab samples here returned < 20 ppb Au.

Empress Area 2+50E

CGI stripped a 3 x 25 m area and exposed an 18 m wide zone of highly sheared and rubbly sediments intermixed with narrow quartz-sericite-carbonate schist units and several bleached, light brown to beige, locally oxidized gabbro to diorite dikes that become strongly sheared, deformed and folded over a 5 m interval near the centre of the Empress Zone. Quartz veins here are bull white and unmineralized. CGI collected 27 channel samples here and three samples returned > 100 ppb Au, with the highest assay 725 ppb Au over 1.10 m from quartz-sericite schist with pervasive, narrow quartz-carbonate-hematite stringers with 2% pyrite and trace sphalerite.

Micham's drill hole 87-9 obtained 8.07 g/t Au over 0.52 m 65 m beneath the trenches and drill hole 87-10 returned 2.33 g/t Au over 0.6 m 98 m below surface, suggesting the Empress Zone may improve with depth here (Simunovic, 1987).

Empress Area 6E

In 1999 CGI stripped an area 4-15 m wide and 60 m long over >5 very old trenches where the Empress structure is >25m wide and is characterized by strong silicification and sericitization, mafic to intermediate dikes, quartz veining, strong shearing and folding with 1-5% sulphides, consistent elevated gold, and trace amounts of chalcopyrite, galena, sphalerite and rare molybdenite.

Cameco Gold Inc. completed 86 channel samples and collected 9 grab samples (1999) at Area 6E with 42 samples returning > 100 ppb Au including 17 samples > 1 g/t Au up to 15.52 g/t Au. A continuous interval could not be excavated, and the best interval returned 5.31 g/t Au over 2.80 m including 10.75 g/t Au over 0.80 m.

Alto Ventures later conducted more channel sampling 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 is co-incident with a high chargeability and conductive IP geophysical anomaly to a 75 metres depth.

Empress Area 8 +25 E

CGI stripped an 8 x 2 m area exposing weak to moderately silicified mafic rocks that grade into strongly sheared metasediments that are weak to moderately silicified, carbonatized, chloritized with traces of hematite locally, 1-5% pyrite locally as disseminations, fine seams and stringers. Five channel samples were cut and the best gold assay obtained was 80 ppb Au over 0.8 m.

Express Area 9E

CGI stripped a 50 x 3 m area just south of the baseline exposing weak to locally strongly sheared, weakly altered mafic volcanic rocks and moderately to strongly sheared grey-green to brown argillaceous sediments with 1-3 % pyrite and trace sphalerite to the north. At the Empress Zone sediments are more quartz-rich and transition to quartz-sericite schist with narrow mafic to felsic dikes that are semi-conformable to stratigraphy. The Empress Zone is more spread out here, with local discrete zones of strong shearing with rare quartz veins. CGI cut 41 channel samples and collected 2 grab samples that commonly returned > 5 ppb Au but significant values > 100 ppb Au are isolated and scattered across a 23 m interval. One 3m zone returned assays from 190 ppb Au to 3.10 g/t Au over 0.80 m. Similar rocks 12 m south returned 2.74 g/t Au over 0.40m. A polished grab sample (#1914) from here returned 3.12 g/t Au and contains various rock fragments in a matrix of oxy-hydroxide mineralized with sphalerite, chalcopyrite, galena, magnetite, pyrite and molybdenite.

Empress Area 10+75E

CGI stripped an area 2 to 8 m wide x 40 m long about 75 m south of the baseline over a few old trenches where a quartz vein exposed in a stream bed was known to contain pyrite and trace chalcopyrite and galena. Geology is similar to Area 9E, but more intensely sheared, altered and mineralized. The central area (Empress Zone) is rubbly and oxidized with strong shearing over 18 m interpreted to be mafic to intermediate rocks altered to quartz-sericite schist that is carbonatized and accompanied by minor quartz veining and up to 5% pyrite in blebs. CGI collected 33 channel samples and 2 grab samples defining a 12 m wide section with 2-5% pyrite, pervasive quartz stringers, and minor (<40 cm) quartz veining that consistently assayed > 100 ppb Au. The best channel sample returned 0.79 g/t Au over 0.7 m.

OGS till sampling here returned outstanding results of > 1000 pristine gold grains (Morris, 2000) and CGI followed up with 6 bulk tills (10-20 kg) in a 50 m by 25 m grid up-ice of the Empress Zone, and the highest value obtained was 6 gold grains. CGI determined that the OGS till sample taken 15m down-ice from the Empress Zone, which is likely the sole source of the >1000 gold grains of the outstanding OGS sample.

Empress Area 15E

CGI stripped an area 6 m x 65 m targeting two lineaments that line up with the Empress last exposed at 11E. Pillow basalts with amygdules are moderately stretched and tops were determined to be younging south. Metasediments exposed occupy a deep topographic depression on the north side of a steep slope for about 15 m and are various shades of brown, beige and grey, fine-grained and siliceous. A couple mafic to felsic dikes are also present. CGI collected 31 channel samples and 3 grab samples (1999) that indicated no significant gold anomalies with the highest assay returning 15 ppb Au over 0.65 m.

Empress Zone west of the Empress Mine

The Empress structure was also traced for 1500 m west of the old Empress Gold Mine. The chemical sediment horizon diminishes in width and intensity, with less quartz veining to the west and is offset by a brittle N-NW trending fault at a creek then continues west towards the Zlatco Prospect that returned 300 – 1200 ppb Au from grab samples (Koziol, 2006).

Creek Showing

The creek showing that occurs near a creek that runs southward from Empress Hill at 5+85W/7+15N, consists of a highly gossanous and brecciated horizon, 1.5 m wide that is strongly silicified and carbonatized with a quartz stockwork and 2-5% pyrite, trace chalcopyrite and fine disseminated magnetite. The area was hand-stripped across 5 m and five grab samples collected returned 185 – 300 ppb Au. This zone may be co-incident with a 2 km long siliceous graphitic iron formation previously mapped by Walker (1967).

Zlatco Showing

CGI mapped some very old trenches near 12+45W/5+75N and sampled a mafic volcanic with 50% quartz stringers and 2-4% disseminated to stringer pyrite and trace chalcopyrite that returned 6.7 g/t Au, and a second sample of schistose silicified mafic rock with 1% pyrite and trace chalcopyrite returned 2.3 g/t Au. This showing may represent the Empress Zone about 900 m west of the old Empress Gold Mine.

CGI trenched the Zlatco showing in 2000 exposing massive to strongly foliated dark green mafic volcanics. The zone of shearing and quartz carbonate stringers is mineralized with trace pyrite in cubes and disseminated magnetite, confined to a narrow 2.5 m interval with sharp contacts, and the quartz-carbonate vein is 28 cm wide and contained 2 grains of chalcopyrite. CGI collected 12 channel samples and obtained a grab sample that returned 5.3 g/t Au and one channel sample that returned 244 ppb Au over 1.0 m.

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 sones in shallow-brittle regimes, through laminated crack-seal veins and sigmoidal vein arrays in brittle-ductile crusty 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 Gold Mine

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 (Schnieders,1996; Puumala, 2015).

Ursa Major Mine

The Ursa Major Mine, staked in 1896 by Jackfish Bay Syndicate Mining Company Ltd., was worked in 1898 when a small workforce completed a 72 m long trench and sunk the #1 shaft to about 37 m depth. In 1901 assays from the Lizard vein (100m north of Ursa Major) reported better Au and Ag values so a second shaft was sunk here to 37 m. Work continued between the two shafts. An adit is also reported at historical mine workings.

In 1919, a prospector known as Captain Pickett returned from Ursa Major with samples of pyrrhotite-bearing gabbro that assayed high platinum, likely several ounces per ton with prior reports of 3-10 ounces Pt per ton.

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.

Government surveys completed in the area include geological mapping (Walker, 1967). Regional magnetic and radiometric surveys were flown by the GSC in the 1960's east of the property. In 1983 a thorough compilation of all mineral showings between Nipigon and Marathon was conducted by OGS (Schneiders, 1986). OGS also conducted Quaternary mapping and sampling, most recently in 1993 to assess diamond potential of the Trans-Superior Tectonic Zone (Morris, 1999). In 2000, OGS completed airborne magnetic and electromagnetic surveys of the Schreiber-Terrace Bay area as part of Operation Treasure Hunt (OTH Schreiber Survey Map 1104).

Relevant historical industry 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

Year	Company	Type of Work	Results	Assessment Report #
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

Year	Company	Type of Work	Results	Assessment Report #
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	20000007081, 2.53866
2014	Alto Ventures Ltd.	Bedrock sampling (21 samples)	No significant results	20000008044
2014	Alto Ventures Ltd.	Assaying and Analyses, Geochemical, Geological Survey / Mapping, Prospecting	No significant results	20000008314
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

Historical Work Targeting the Empress Structure

Micham Exploration Inc conducted line cutting, mapping, geophysics, prospecting, rock sampling, trenching and blasting, and core drilling. Micham report following the Empress Structure for 2750 m during a geological mapping and sampling campaign in 1983 noted the Empress Structure was the largest in width and extent on the property (Dadson, 1983). Micham also located and cleaned out several old trenches.

Simunovic (1985) reported soil sampling on Micham's Terrace Bay Property and noted a 2700 m long anomaly with elevated copper, zinc, and gold associated with the Empress structure and West Siville-Ferrier structure. The anomaly has a SW-NE orientation and extends from Line 64W 20S to L24E 12N. Values of 3650 ppb Au, 710 ppm Cu, and 4160 ppm Zn were obtained.

In 1985 Micham reported core drilling of their Terrace Bay property which included 4 drill holes for 483 m. The report includes claim sketches, diamond drill logs, gold assays, and

gold assays of sludge samples collected at 3m intervals. This drill program focused on terrain west of the old Empress Mine.

In 1987 Micham reported core drilling of their Terrace Bay property which included 10 drill holes for 1674 m. The report includes claim sketches, diamond drill logs but gold assays were not provided. This program focused on terrain east of the old Empress Mine. (From Lavigne, 1997)

Sampling by Terry Needham (Big Lake Geological Services) from 4 trenches 350 meters to the northeast, on (legacy) claim 1208188, where Micham has two trenches on their geological map... returned values with a weighed average of 0.10 opt Au over 10' from random chip samples of sericite schist with 5-7% disseminated pyrite and quartz stringers. A grab samples of quartz vein yielded 0.478 opt Au. The average of 17 select grab samples in this area was 0.137 opt Au.

Lavigne collected six samples in 1997 confirm Needham's assays. A 20-pound composite grab sample representing a width often feet in the fourth trench of sulphide bearing quartz vein assayed 22.97 g/t Au. This vein contained 3-5 % pyrite as blebs, and traces to 0.5 % galena as stringers and traces of chalcopyrite. In the third trench, a five-foot chip sample of sericitic, siliceous, pyritic wallrock assayed 2.37 g/t Au. The exposed, across strike width of the pyritic wallrock at this location is 30 meters.

Lavigne noted "the Empress Structure... can be traced for a minimum length of two kilometres... and is well mineralized over widths of 100 meters. The western portion of the structure is well explored but the eastern portion, whose strike length is open to the east, has seen only minimal surface exploration... The Empress Structure is a gold bearing hydrothermal system that has high discovery potential."

(from Sampson, 1999)

In 1999 Cameco Gold Inc (CGI), explored the Empress Property with objective to characterize and further assess the economic gold potential of the **Empress Structure**. Cameco recognized the Empress Structure as a significant corridor of historical economic significance related to previous mining at the Empress Gold Mine. Cameco's objectives were to determine assess gold potential of the Empress Structure and understand alteration, mineralization and controlling factors of the auriferous zone, locate the Empress Structure along strike, and define new gold mineralization targets.

CGI determined the Empress Structure as a moderately to strongly sheared and altered deformation zone, from 15-25m wide that extends for more than 1800 m. The structure follows highly altered interflow sediments that are intruded by several generations of mafic to felsic dikes. The structure is schistose and strongly altered at its core by quartz-sericite+/- biotite +/- carbonate with quartz veining. Mineralization includes up to 15% pyrite in seams and disseminations, and trace amounts of galena, sphalerite and molybdenite.

Sampling by CGI demonstrated the Empress Structure can generate sustained and significant gold values (>100 ppb Au) over widths > 15 m, and that gold assays > 1 g/t Au were obtained at several places along the structure (from L 1+ 00 E to 10 +75 E on CGI grid)

for a strike of 1400 m. CGI obtained a 54.68 g/t Au assay from quartz-sericite schist with pervasive quartz veining, pyrite and trace base metals.

CGI noted the intensity of deformation and alteration, elemental association of Ag, Cu, Pb, Zn, As, and Mo to gold, and widespread distribution of gold within various rock types including late intrusive dikes indicate there were compositionally different, long-lasting pulses of gold mineralization along the Empress Structure capable of producing significant gold ore deposits similar to those present in the Timmins and Hemlo gold camps.

Cameco completed IP and Mag geophysical surveys, 25 lkm of geological mapping and petrography of 28 rock samples. They also completed surface stripping at 8 locations (L1E, L2E, L2+50E, L6E, L8+25E, L9E, L10+75E, and L15E), detail geological mapping and channel sampling (308 channel samples). Channel sampling of the Empress Zone at Trench 6E returned 1.3 g/t Au over 16.2 m (including 5.3 g/t Au over 2.8 m).

Cameco also re-logged historical drill core (Simunovic, 1987) stored at the MNDM core library in Thunder Bay. In total, Cameco relogged 12 holes for 1800m and quartered historical split BQ core collecting 532 samples. Geologists also relocated historical collars in the field and estimate Micham's re-positioned collars at +/-15 m accuracy on their maps.

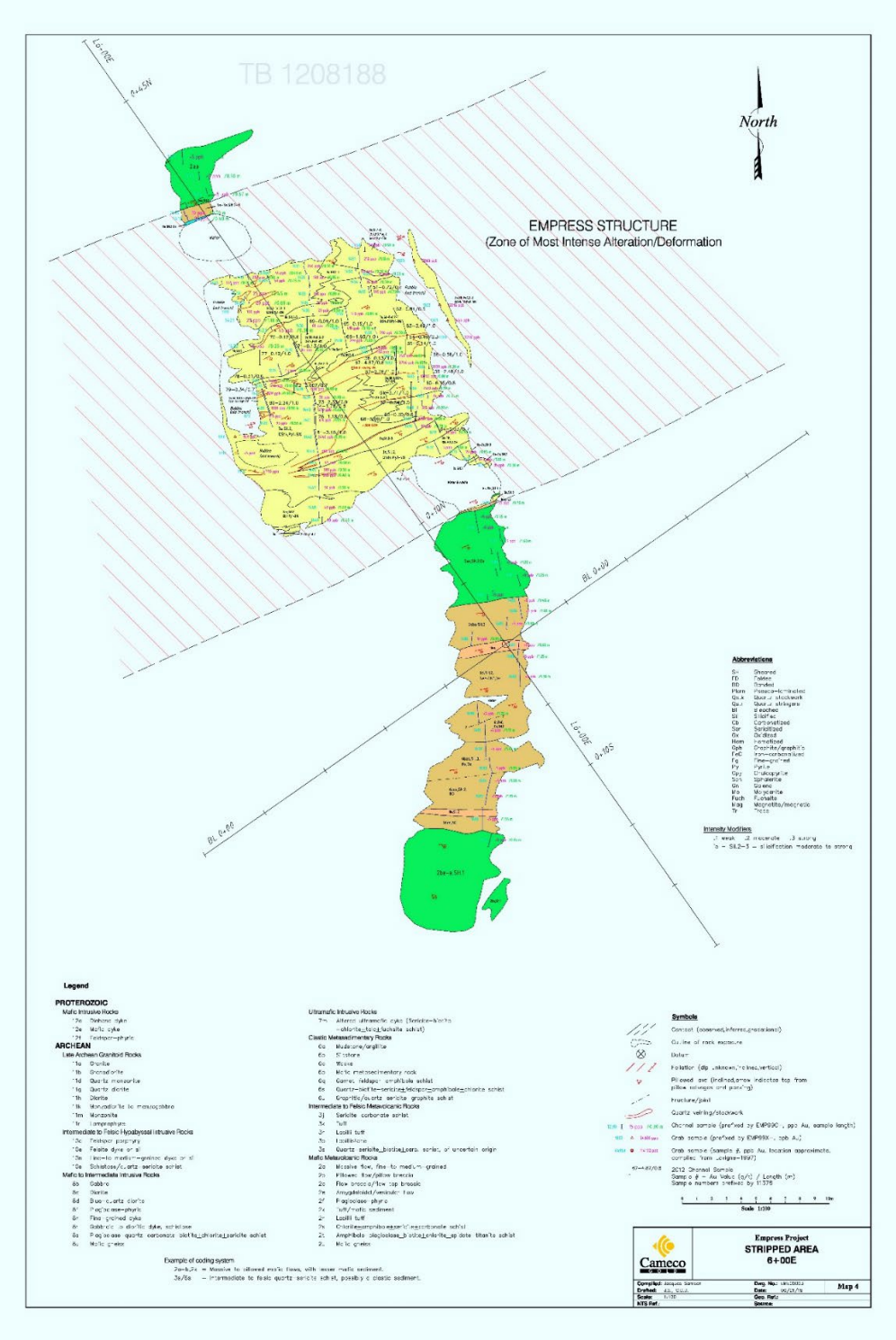

Figure 7. Cameco Surface Stripping and Sampling Section 6E.

(Morris, 2001) During a geochemical orientation survey till sample **488-TM-99 contained 1,093 pristine gold grains** and was collected up-ice from a modern alluvium sample 486-TM-99 contained 389 gold grains, returned 488 ppb Au from B-horizon soil, and 216.8 ppb Au from C-horizon soil. The two samples were collected near **Cameco's stripped area 10+75E** according to McCracken (2000).

Table 3. OGS Sampling at Empress Hill (Note: UTM NAD27).

Sample No.	U.T.M.		Gold Grain Types and Totals			
	Easting	Northing	Total	Reshaped	Modified	Pristine Gold
466-Ma-99	501638	5411791	0	0	0	0
483-Ma-99	502491	5412367	391	1	1	389
490-Ma-99	500558	5411492	0	0	0	0
492-Ma-99	500665	5411589	2	2	0	0
471-Tm-99	501518	5411772	2	0	0	2
476-Tm-99	501633	5411918	4	3	0	1
481-Tm-99	502137	5412198	1	1	0	0
488-Tm-99	502545	5412302	1096	3	0	1093

Dr. Tom Morris (2000) collected a rock sample from Empress Hill described as siliceous sericite schist with a goethite/pyrite mineral assemblage that produced **14 modified and 237 gold grains**. 98% of the sample's mineral fraction consisted of pyrite. The location of this rock sample is unknown but presumed to also be from Cameco's stripped area 10 + 75 E.

In 2006 Alto Ventures examined key exposures of the Empress Structure east of the old Empress Gold Mine to determine if there are plunge trends that control gold mineralization within quartz veins and shear zones and to determine if prior drilling by Micham Exploration (Samson, 1999) had adequately tested mineralization. Alto also conducted prospecting and mapping west of the old Empress Gold Mine and prospected each of Cameco's historical IP anomaly trends. Koziol (2006) recommended drilling five holes for 600 m with the first hole undercutting Empress Trench 6E with another hole on either side at 25 m spacing to determine the plunge of gold mineralization, followed by 2 to 3 drill holes targeting gold mineralization at depth.

In 2008 Alto Ventures drilled two NQ core holes to test the Empress Structure at 100m centres just east of Empress Mine Patent on sections 1E and 2E (Azimuth 332.5°).

EMP08-01 cut mafic volcanic flows and fine-grained gabbro with finely-bedded clastic sediments and cherts prior to cutting the Empress structure from 104.0-124.46 m depth, described as finely-laminated cherty rocks interbedded with fine clastic metasedimentary rocks. The zone contained 5% disseminated pyrite crystals and stringers and clusters of coarse pyrite parallel to foliation, and the hole cut three main quartz veins logged at 106.45-107.35 m, 112.93-115.1 m, and 115.76-116.9 m depth that contain fine black biotite and carbonate. Mineralization of quartz veins includes pyrite, chalcopyrite, and galena that occur as clusters within fractures of the veins. Anomalous gold values were obtained from both quartz veins and wallrock and include:

- 0.49 g/t Au over 1.0 m from 106.35m
- 0.46 g/t Au over 0.95 m from 111.35m
- 0.21 g/t Au over 2.1 m from 119.5 m

Hole EMP08-02 cut mafic flows and interflow clastic sediments and fine gabbro from 18.5-108.5 m then cut the Empress structure from 108.5-113m described as an impressive light-tan

coloured sericite, fuchsite, chlorite, hematite schist mineralized with 5% pyrite that contains 40% quartz veins up to 30 cm wide mineralized with clusters of pyrite, chalcopyrite, and galena. Anomalous gold values were obtained from the upper part of the structure includes 0.66 g/t Au over 2.3 m from 108.5 m depth (including 2.04 g/t Au over 0.5m from 109.8 m). A fault was logged after this intercept, and the hole ended in mafic lava flows and intercalated siltstone and argillite.

Figure 8. Laminated quartz-biotite-chlorite crack and seal vein with 5% disseminated pyrite from EMP08-02 at 110m depth.

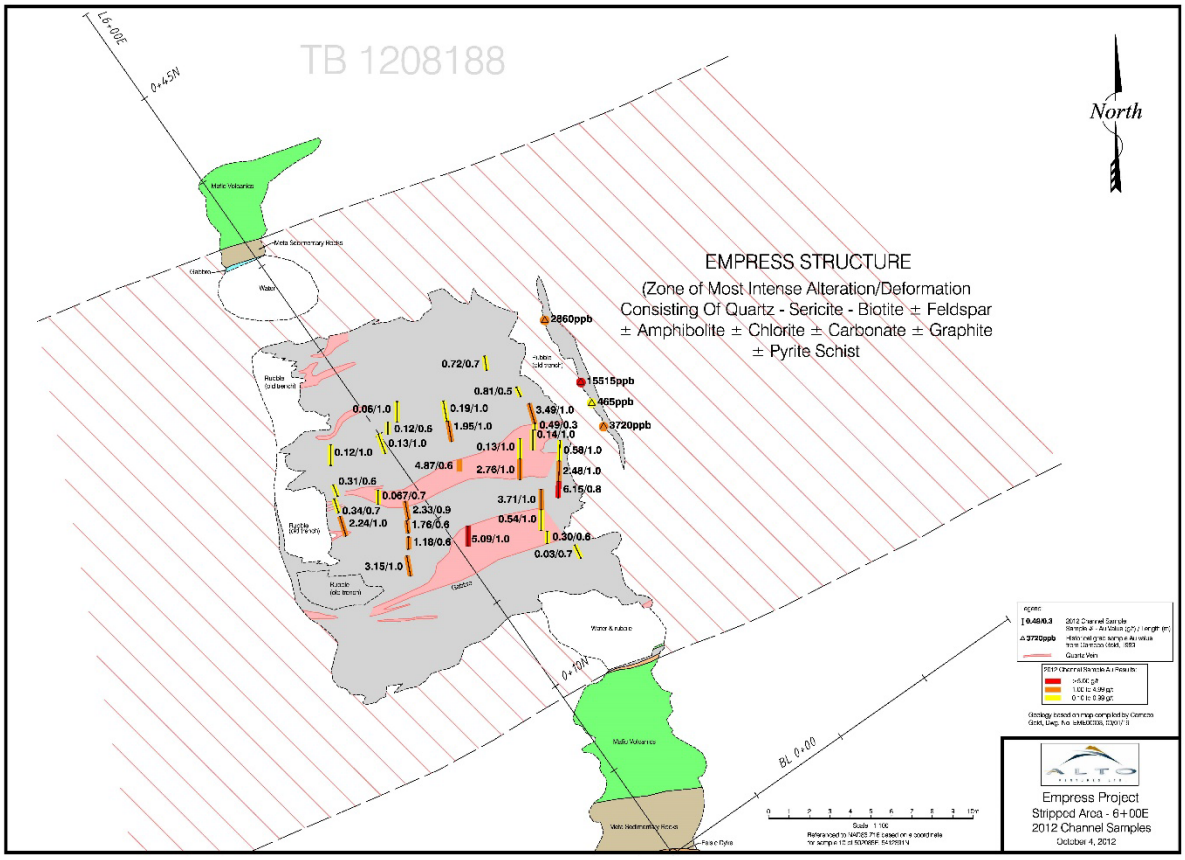

Figure 9. Empress 2012 Channel Samples Area 6E.

Figure 10. Empress Channel Samples Area 6E.

Sanatana Regional Work Programs

(From Gill, 2020)

"Regional exploration programs completed in 2017 that covered the entire Jackfish property included a Geoscientific Interpretation Report by Ronacher McKenzie Geoscience and a Stereo Satellite Surveying Project by PhotoSat Information Ltd. The main purpose of the SPOT satellite imagery acquisition and processing was to generate a high-resolution topographic base onto which field exploration data could be displayed and analyzed in three dimensions."

"The geoscientific interpretation work included re-processing of publicly available airborne geophysical data and structural interpretation of the resultant imagery coupled with review of current geological mapping and historical mineral showing data to provide a model for the types of geological settings that host gold mineralization that could be applied to other similar locations around the property. The major conclusion to this study was that many of the known gold occurrences are associated with the intersections of E-W and NE-SW trending structures. Section 6 East target (Area 6E) at Empress is an example of this style of gold occurrence."

"An unmanned aerial vehicle (UAV) based airborne magnetic geophysical surveys was undertaken over part of Jackfish property, including Empress. The purpose of the work was to delineate structures possibly hosting gold and base metal mineralization as suggested by

the Geoscientific Interpretation Report. The data from the survey was used to generate the usual images of total magnetic intensity and derivatives useful for geological interpretation. The magnetic data was also inverted to produce a three-dimensional model of magnetic susceptibility. The interpretations from the UAV magnetic survey were used to plan further exploration work programs for potential gold mineralization at Jackfish."

Current Exploration Work

Preparations for drilling including prospecting and recce work, and mechanical work to upgrade the trail was completed in 2018 until winter shut work down. Drill-related work resumed in July 2019 at Empress Area 6E.

In 2019, Sanatana drilled four BTW (42 mm, 1.65") diameter core holes (for 402 m) targeting Empress Area 6E stripped outcrop at depth along one section. The objective of drilling the Empress Section 6 East target was to follow-up on significant gold assays recovered on surface by stripping and channel sampling program completed by Cameco in 1999 and Alto Ventures in 2012. All four drill holes were completed on mining claim 153587.

This work completed in 2018 and 2019 was reported to Sanatana's Joint Venture partner (Alto Ventures) in March 2020, but the JV report was not modified to file as an assessment report. Sanatana's Joint Venture work report (Gill, 2020) was relied upon to account for work completed in 2018 and 2019, and spreadsheets that accompanied this report were relied upon for 2018 and 2019 costs.

2018 Prep-work and 2019 Core Drilling

(From Gill, 2020)

"Granting of the Exploration Permit for earthmoving and drilling activities on Empress was significantly delayed throughout late 2017 and much of 2018 due to the Métis Nation of Ontario wanting face to face meetings about the application and conditions restricting field work around moose calving season written into the permit. As a result, the earthworks to improve the access trail didn't commence until late 2018 and had to be postponed because the onset of winter."

Sanatana worked from August 13 to 29, 2018 and spent **16 days** on the property, upgrading and clearing the old access trail to Empress Area 6E, then scouting the area for potential drill pads and access trails between them, and finally building the drill pads and access trails. On completion of this work all sites were prepared for drilling. Work was completed by Troy Gill, P.Geo., exploration manager of Sanatana, and Wayne Richards of Richard's Exploration. Sanatana operated from Jackfish Cabins, located near the property until departure in the fall of 2018.

(from Gill, 2020)

"The Section 6 East ("S6E") showing provided the best opportunity for success at intersecting gold mineralization at depth along the Empress structure, based on previous

surface channel sampling results and induced polarization ("IP") geophysical data. Cameco Gold Inc. completed channel sampling at S6E in 1999 generating some significant gold results that were resampled by Alto in 2012 and confirmed a mineralized 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."

"A four-hole, 402-metre diamond drilling program testing the S6E target was completed in September. The Empress Structure was traversed by each drill hole stepping back south from the stripped outcrop 25 metres at a time (Table 4), although the drill collar locations had to be placed as the variable topography of the landscape would allow (Figure 11)."

Table 4. Section 6 East Drill Hole Collar Data Summary.

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

"The Empress structure was observed as a zone of significant sericite and pyrite alteration and quartz veining within a strongly foliated interval interpreted to dip at a fairly shallow angle (~30°) to the south based on downhole intercept depths (Section of 2019 Drill Holes). Samples of nominally 1 metre length of half core were taken continuously throughout the sheared and altered interval from drill holes EMP-19-01 and EMP-19-02. Sample intervals were broken at geological contacts such that the smallest sample was 0.3 metres and the longest 1.4 metres. QA/QC samples including certified standards, blanks and duplicate samples were added to the sample stream every 10th sample in a rotating fashion to help assess the validity of the sample results from the lab. The samples were submitted to ALS, Thunder Bay and tested for gold by Fire Assay and a suite of trace elements by total digest ICP-MS methods."

"Although the alteration and amount of sulphide looked very encouraging, the assay results of samples throughout this interval from drill holes EMP-19-01 and EMP-19-02 returned very little associated gold (Table 5). None of the typical pathfinder elements such as arsenic or antimony returned consistently elevated values throughout the shear zone, which indicates that the sulphides are not related to a gold mineralizing event. The most elevated gold values were from very distinct, but narrow, banded grey and black quartz veins within the shear zone. These gold results were associated with weakly elevated bismuth and tellurium values in the samples which points to a telluride – gold mode of mobilization."

"Having received these disappointing assay results from the first two drill holes as holes EMP-19-03 and EMP-19-04 were still being drilled, the decision was made not to log or sample the final two drill holes."

Table 5. Section 6 East Drill Hole Gold Mineralized Intervals.

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

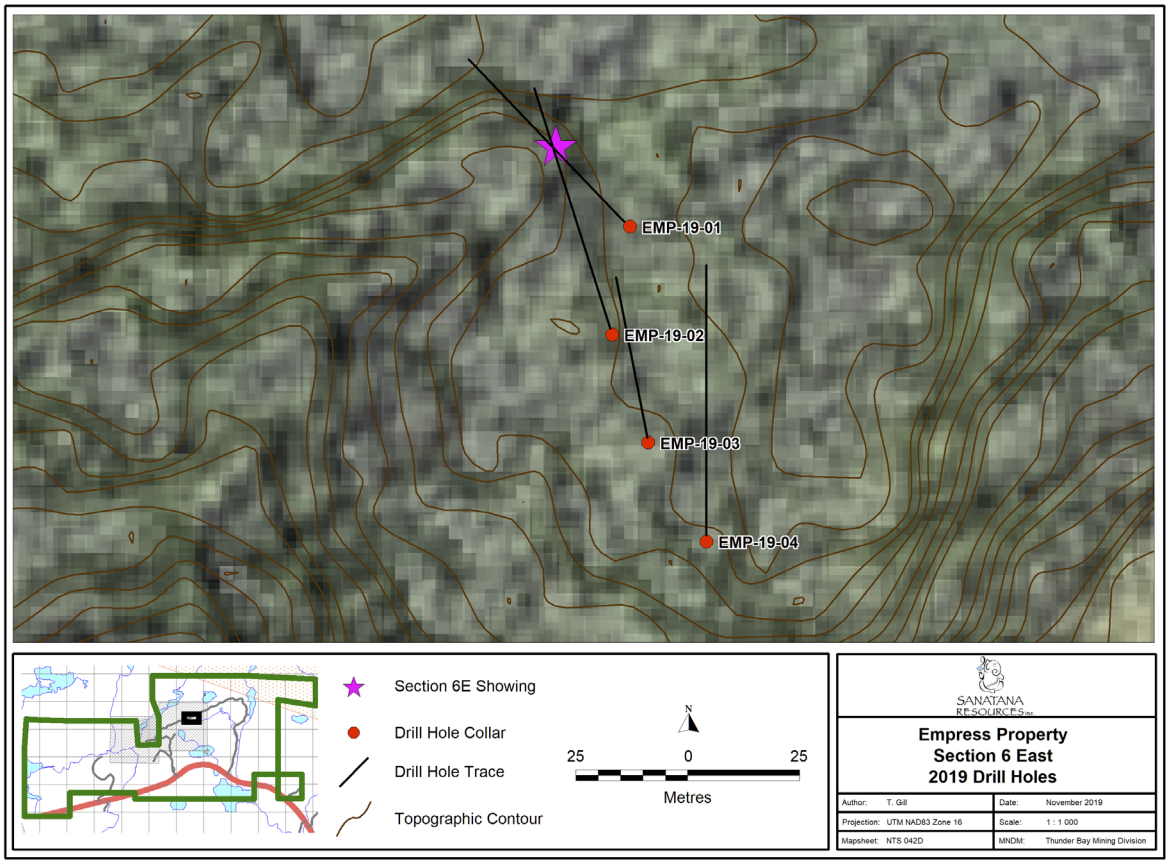

Figure 11. Plan Map of Section 6 Drill Hole Collars and Traces.

Sanatana worked from August 18 to September 17, 2019 and spent **31 days** on the property performing field work that included mobilization of equipment, drilling four core holes for 402 m, and then demobilizing from the Empress Property. Work was completed by Troy Gill, P.Geo., exploration manager of Sanatana (until 2020), and Wayne Richards of Richard's Exploration. Sanatana operated from Jackfish Cabins, located near the property, and logged and sawed core in a building rented from Jackfish Cabins.

After the first two holes were logged, sawed and sampled, Sanatana stored all drill core on a core rack in a secure yard behind Jackfish Cabins in late September 2019. The drill core remained on the rack in a secure drill core storage yard behind Jackfish Cabins for the next 4 years.

2023: Retrieve and Log 2019 Empress Drill Core

In May 2023 KGI was asked to retrieve 2019 drill core from Terrace Bay, move it to Thunder Bay, log the core, generate a cross section, and file an assessment report on this work.

In early June 2023, KIVI Geoscience Inc visited Jackfish Cabins and met with Wayne Richards (owner of Jackfish Cabins and Richard's Exploration) to inspect the drill core. The Empress drill core was found to be in excellent condition. Since September 2019 Sanatana's Empress drill core has been stored on a core rack in a secure yard behind Jackfish Cabins east of Terrace Bay. Arrangements were made to retrieve the core.

KGI made two trips from Thunder Bay to Terrace Bay, loading about 50 boxes of Sanatana's 2019 drill core strapped securely onto pallets on a trailer, and moved core successfully to a core rack in Thunder Bay. Empress drill core was successfully relocated to a core rack at KGI's facility without incident or core loss. This work was performed by Kevin Kivi and Max Kivi on June 3 and June 4, 2023 (4 man-days).

Figure 12. Wayne Richards and drill core from EMP19-01 and EMP19-02 loaded and strapped for transport.

Figure 13. KGI Core logging set-up in Thunder Bay.

Kevin Kivi, P.Geo. conducted geological re-logging of Sanatana drill holes EMP19-01 and EMP19-02 (these were previously logged and sampled by Sanatana in 2019). Re-logging was conducted to familiarize the author with Empress Area 6E and gold bearing zones in the first two holes. KGI next completed geotechnical logging, core photography, and geological logging of holes EMP19-03 and EMP19-04.

Drill hole data collected by KGI for all four drill holes (402 m) was input to a Geotic drill database. Historical assays from 2019 were then appended, and Geotic was used to generate a drill hole X-section that shows Lithology codes (see core logs) and a histogram plot of gold assays in g/t Au.

On review of drill core, logs, previous assays, and drill cross sections, KGI learned that historical logging and sampling was complete for EMP19-01 and EMP19-02. Sanatana (STA) 2019 core logs and assay certificates are provided with this report.

Two gold-bearing zones are present in hole EMP19-01, with the best result being 1.7 g/t Au over 2.9 m from 19.1 m depth, which includes four samples that all exceed 1.3 g/t Au. Another gold-bearing interval is present from 43-35 m depth with two 1m samples returning 0.27 and 0.86 g/t Au respectively from thinly bedded siltstone with 5-20% pyrite locally.

One gold bearing zone is present in EMP19-02 from 37-40 m depth with three consecutive samples that returned between 0.33 to 1.03 g/t Au.

KGI observed VG (visible gold) at 38-41.4 m depth when re-logging hole EMP19-02 in a 25 cm thick grey laminated "crack and seal" quartz vein that is also host to coarse pyrite and trace chalcopyrite. Previous authors note that VG is uncommon at Empress and note the presence

of other base metal sulphides (chalcopyrite, sphalerite, and molybdenite) in gold-bearing veins. Chalcopyrite has been observed by KGI.

Sample VR13384B returned 0.501 g/t Au over 1.40 m in the interval where VG was observed. KGI recovered the pulp rejects for Sanatana's 2019 samples along with drill core, so there is an opportunity to check sample VR13384B again, and then quarter drill core and apply a gravimetric method which is better when free gold is present.

Work completed by Sanatana in 2019 on holes EMP19-03 and EMP19-04 was core box measurements and DYMO tags. These are the first steps in Geotech work when drill core first arrives at the core shack. The geologist would check the blocks to ensure accurate core measurement, and then rack the core for a more detailed look later.

The geologist would also quickly review mineralized zones in the drill hole to ensure the target has been hit and check the depth of the intercept. This information allows the geologist to stop the hole early and save budget for subsequent drilling. Hole EMP19-03 was stopped at 71.4 m, only 12.96m past the Empress Zone was cut, so it's clear the geologist in charge was attentive.

Hole EMP19-03 cut altered siltstones with 5% quartz stringers, and 1% pyrite and 1% pyrrhotite from 33.6-39.15 m. Later, along with lamprophyre dikes the hole cut a zone with 30% quartz stringers and lesser pyrite and pyrrhotite than earlier from 42-46 m depth. At 50.83-51.55 m depth the hole cut a dark green chlorite schist. The Empress Zone is likely present in altered and mineralized siltstones from 42-26m depth.

Hole EMP19-04 cut the Empress Zone from 65.6-80.6 m. The Empress Zone is wide and well-mineralized from 65.6-79.0 m depth and includes a 20 cm laminated crack and seal quartz vein with coarse pyrite from 78.9-79.0 m depth. Crack and seal veins are often gold bearing in Archean orogenic gold settings.

Further down EMP19-04 another biotite chlorite schist was cut from 102.14-103.84 m where 3-5% pyrite, 2% pyrrhotite, and 5-8 mm quartz-carbonate stringer are reported.

Costs of 2018-2019 Work

The expenditure for 2018 and 2019 Empress Area 6E drilling, including planning, field preparation, and management costs, is summarized in Table 6. Details of each expense item are provided in pdf file called STA Empress Expenditures and back-up copies of receipts is in a pdf file called STA Empress exp backup, each filed with this report. Since these reports are from a JV report, they also include 2017 expenses and other costs in 2018 and 2019 that are not relevant to this assessment report, and therefore only some of the categories in Table 6 have been applied, and line items from Sanatana's accounting system were used so the amount claimed does not match the totals in Table 6.

Table 6. Summary of Costs for the 2018 and 2019 Drill Program (from Gill, 2020).

Expense Item	Cost	
Prospecting (Recce)	$	2,861
Direct Drilling	***$***	***49,072***
Supplies & Consumables	***$***	***1,504***
Sample Assays	***$***	***10,711***
Communications	***$***	***1,073***
Airfares	***$***	***2,910***
Rental Equipment & Storage	***$***	***752***
Fuel	***$***	***1,711***
Accommodation & Meals	***$***	***9,947***
Licensing & Insurances	$	950
Wages	***$***	***72,375***
Sub Total	*$*	*153,865*
Administration - Drilling (5%)	$	2,454
Administration (10%)	$	10,479
Total Admin	*$*	*12,933*
Grand Total	**$**	**166,798**

Some 2018 and 2019 costs do not qualify as assessment work but are valid JV expenditures (the source of Table 6) therefore the amount claimed for drilling uses some of highlighted items (bold italics), with wages reduced from $72,375 to a per diem @$475/day for 16 days (2018) and 31 days (2019). Combined 2018 and 2019 drilling costs are **$ 111,181** for $277/meter, all inclusive.

Cost of 2023 Work and Report

KGI made two trips to Terrace Bay to pick up the drill core. This work was completed on June 3 and June 4, 2023 by Kevin Kivi P.Geo. and Max Kivi (4 man-days). 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, expenses, core logging, drill database and report. The vehicle mileage rate used in Table 7 is $ 0.58 per kilometer.

KGI also logged the drill core, input data to a drill database software, created drill plans and sections and wrote a technical report.

KIVI Geoscience Inc is required to charge HST on all costs presented in Table 7.

The report was written using a laptop PC with MS Word, and maps were generated in GIS using MapInfo. Drill logging software used was Geotic Log and Geotic Section. Some figures used in this report are from prior reports by Sanatana Resources Inc.

Additional work completed by KGI on 2019 Empress drilling brings the cost of drilling to **$126,411 or $315/meter**, all inclusive.

Table 7. Core Retrieval, Core Logging, Drill Database, and Technical Report Costs (not including HST charged by KGI).

Date	Worker	Description	Hours	Office Work	Manday	Trip	Vehicle	Km logged	Vehicle	Gas	Rentals	Expenses	Comments
2023-06-03	Kevin Kivi P.Geo.	Pick up 2019 drill core			$ 880	Tbay to Jackfish R/T	Tundra & Trailer	509	$ 295	$ 80	$ 50	$ 25	Moe and Joes - meals
	Max Kivi				$ 200					$ 70		$ 47	The Voy - meals
2023-06-04	Kevin Kivi P.Geo.	Pick up 2019 drill core			$ 880	Tbay to Empress R/T	Tundra & Trailer	480	$ 278	$ 83	$ 50	$ 10	Staples
	Max Kivi				$ 200					$ 79		$ 29	Tim Hortons meals
2023-06-09	Kevin Kivi P.Geo.	Report	8	$ 880								$ 20	Tim Hortons meals
2023-06-10	Kevin Kivi P.Geo.	Report	6	$ 660								$ 73	Mr Chinese meals
2023-06-11	Kevin Kivi P.Geo.	Re-log EMP19-01	8	$ 880									
2023-06-12	Kevin Kivi P.Geo.	Re-log EMP19-02	8	$ 880									
2023-06-14	Kevin Kivi P.Geo.	Log EMP19-03	2	$ 220									
2023-06-15	Kevin Kivi P.Geo.	Log EMP19-03	2	$ 220									
2023-06-20	Kevin Kivi P.Geo.	Log EMP19-03	8	$ 880									
2023-06-21	Kevin Kivi P.Geo.	Log EMP19-03	8	$ 880									
2023-06-24	Kevin Kivi P.Geo.	Report	5	$ 550									
2023-06-25	Kevin Kivi P.Geo.	Report	8	$ 880									
2023-06-26	Kevin Kivi P.Geo.	Report	3	$ 330									
2023-07-01	Kevin Kivi P.Geo.	Report	2	$ 220									
2023-07-05	Kevin Kivi P.Geo.	Geotic Drill database	8	$ 880									
2023-07-06	Kevin Kivi P.Geo.	Log EMP19-04	8	$ 880									
2023-07-07	Kevin Kivi P.Geo.	Log EMP19-04	8	$ 880									
2023-07-09	Kevin Kivi P.Geo.	Geotic and X-Sections	8	$ 880									
2023-07-10	Kevin Kivi P.Geo.	Finalize Tech Report	8	$ 880									
		Column Totals	**108**	**$ 11,880**	**$ 2,160**				**$ 574**	**$ 312**	**$ 100**	**$ 204**	
		Grand Total		**$ 15,229**									

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.

Sanatana previously explored Area 6E of the Empress Structure, which trends NE from the old Empress Mine and dips -30° to the south. Sanatana drilled for holes for 402m targeting Area 6E in September 2019, which is reported to shareholders in the company's MD&A from December 2019. All four drill holes were completed on mining claim 153587.

This drilling work is 44 months old at the time of this report, so less than 60 months and still valid assessment work. The author found no record of this work in OAFD or ODHD databases, and suspects this drilling was not filed previously as assessment work by Sanatana.

KGI re-logged holes EMP19-01 and EMP19-02 and found that each hole intersected the Empress Zone at Area 6E as planned. Only holes EMP19-01 and EMP19-02 were logged and split.

The best intercept was from EMP19-01 returned 1.7 g/t Au over 2.9 m from 19.1 m depth (Gill, 2020).

KGI observed VG (visible gold) when re-logging hole EMP19-02 at 38-41.4 m depth, in a 25 cm thick grey laminated crack and seal quartz vein that also hosted coarse pyrite and trace chalcopyrite.

With VG noted, KGI recommends that gold-bearing intervals of both holes EMP19-01 and EMP19-02 should be quarter-sawed and submitted for a total metallics assay. The entire length of the zone should be combined to ensure that there is enough material for this type of gold assay. KGI also recommends re-assaying pulps from the Empress Zone in holes EMP19-01 and EMP19-02.

KGI expects the Empress Zone is also present in hole EMP19-03 within altered and mineralized siltstones from 33.6-51.55m depth. Several lamprophyre dikes cutting the lower part of this interval is a positive sign since these dikes are present in the Empress Zones of holes EMP19-01 and EMP19-02 and also reported at surface. The Empress Zone seems weaker in hole EMP19-03, but gold assays are required to verify this suspicion.

KGI also expects the Empress Zone is also present in hole EMP19-04 within a ductile deformation zone cut from 65.6-80.6 m depth with 3-10% quartz stringers and locally 1% pyrite.

A 20 cm laminated crack and seal quartz vein with coarse pyrite was also logged at 78.9m depth is a good sign.

KGI also logged biotite chlorite schist with 3-5% pyrite and 2% pyrrhotite along with a laminated crack and seal quartz vein from 102.14-103.84m depth in EMP19-04. This second zone some 20 m below the Empress Zone is like positive assays returned in hole EMP19-01 below the Empress Zone.

KGI recommends sawing and sampling all mineralized zones in hole EMP19-03 and EMP19-04. As noted earlier, laminated crack and seal style quartz veins are often gold-bearing in Archean orogenic gold settings and both potential zones cut in hole EMP19-04 host this type of quartz vein. These samples should also undergo a total metallics assay method in case VG is present within these crack and seal veins.

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

KGI also recommends a desktop study with complete digitization of all historical work on the property, and then ground checking and resampling of certain gold showings along the Empress Zone, especially when bedded chert and siltstone is abundant.

KGI also recommends resuming correspondence with Biigtigong Nishnaabeg, Metis Nation (and other FN groups), 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 in future.

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Certificate of Author

Kevin Robert Kivi, P.Geo.

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I Kevin Robert Kivi, P.Geo., 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:

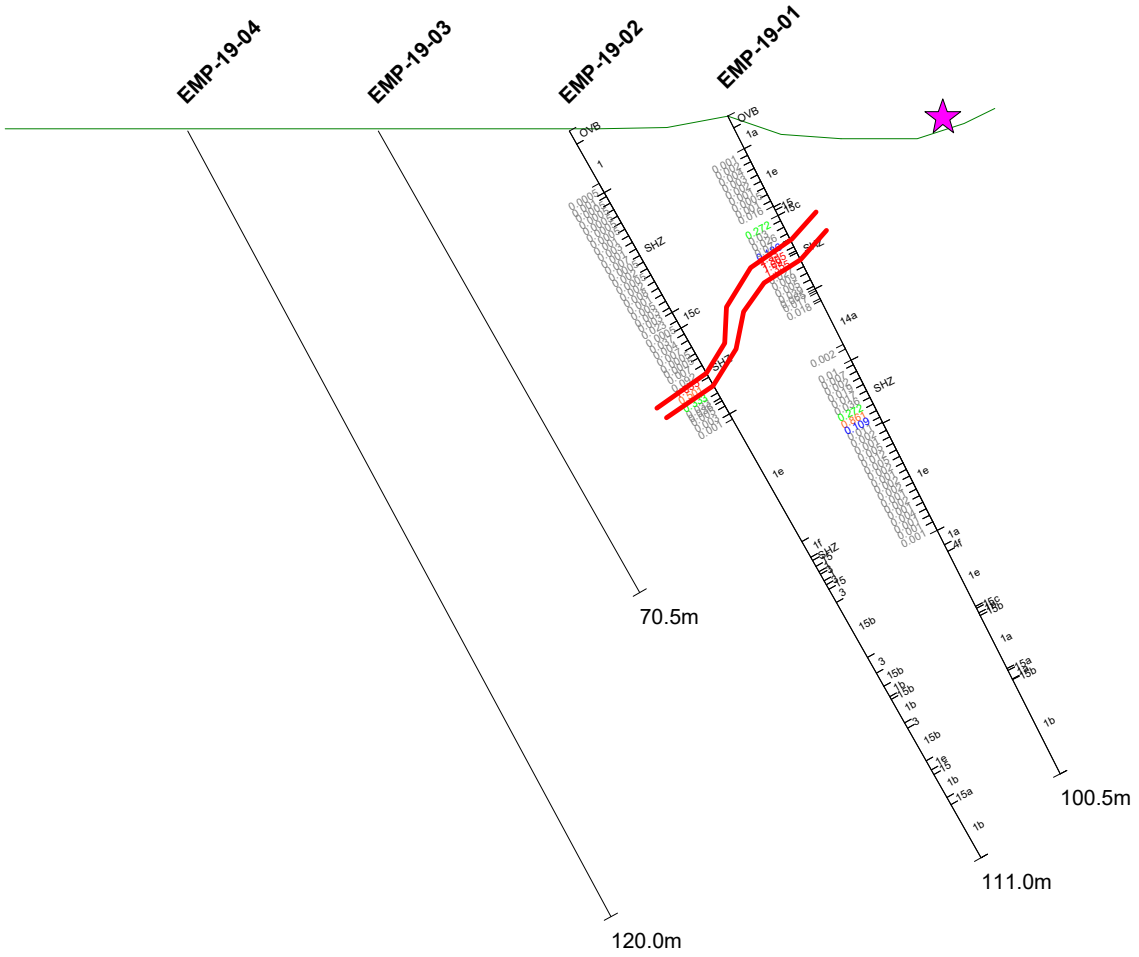
- gold exploration with Ovaltex Inc. along the Cadillac Break in Rouyn and Val D'Or, Quebec in winters of 1984, 1985 and 1986, and between 1986-1988 in NW Ontario.
- diamond exploration with BP Resources Inc – Selco Division in Ontario, Quebec, Manitoba and NWT in summers of 1984, 1985 and 1988;
- gold 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 volcaniclastic 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 Brazil, Finland, and Canada. Current clients include Sanatana Resources Inc., Aurion Resources Inc., VR Resources Ltd., and Orebot Inc.

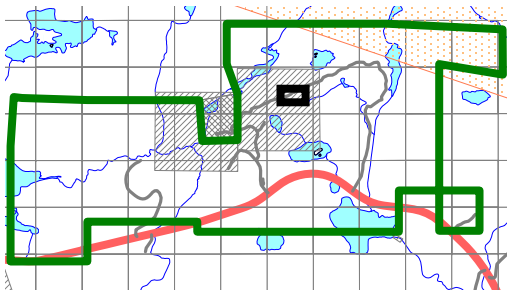
KIVI Geoscience Inc. (KGI) continues to work as a geological consultant for Santana Resources Inc. in 2023. KGI reviewed the Empress Assessment Report and Maps and is responsible for their technical content.

Dated at Thunder Bay, ON, CANADA this 10th day of July 2023.

KIVI Geoscience Inc.

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





Section 6E Showing

Topographic Surface

Drill Hole Trace

Limits of Au Mineralization

N

25 0 25

Metres

SANATANA RESOURCES Inc.

Empress Property
Section 6 East
2019 Drilling Section

Author:	T. Gill	Date:	March 2020
Projection:	UTM NAD83 Zone 16	Scale:	1 : 1 000
Mapsheet:	NTS 042D	MNDM:	Thunder Bay Mining Division

DRILL LOG TITLE PAGE

Hole ID	**EMP-19-01**	***Project***	**Empress**

Section	6E	***Easting***	502106	***Source***	Planned
Site	Surface	***Northing***	5412374	***Azimuth***	310
Twp	Syine	***Elevation***	365	***Dip***	-60
		Grid	UTM NAD83	***Length***	100.50 ***m***

Logged by	Troy Gill	***DDH Started***	07-Sep-19
Geotechnician	Troy Gill	***DDH Finished***	09-Sep-19
Geotech Type	Basic	***Log Completed***	14-Sep-19
Drill Contractor	Richards Exploration	***Last Updated***	18-Sep-19
Core Size	BTW		

Available Analyses:	***FA***	Yes	***GRAV***	No	***MET***	No	***ICP***	Yes	***WR***	No

Summary

25m test of the Section 6E showing.

Sanatana Resources Inc. Drill Log

Empress

Signature: _____

Initials: _____

EMP-19-01

From	To	Litho
0.00	1.80	OVB

The drillhole was collared very close to bedrock although no core was recovered.

STRUCTURES

From	To	Struct	CA	Strain

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%

SAMPLES

From	To	Sample	Au g/t	Type

From	Litho
1.80	1a

Basalt - Dark green, massive to weakly foliated, fine grained, some blotchy lighter patches, pervassive chloritic altered. Sericitic shear vein lower contact.

STRUCTURES

From	To	Struct	CA	Strain
1.80	4.90	FOL	35	W
4.90	5.00	CNT	30	S

Ser-car shear vein

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
1.80	5.00	W			W	W	W							

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
1.80	5.00	5	LWV	SHV	CB	QZ-CB	16	40

Serivite

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%

SAMPLES

From	To	Sample	Au g/t	Type

From	Litho
5.00	1e

Mafic Schist - Grey-brwon to grey green, variably banded to thinly foliated, chloritic with numerous thin quartz-carbonate veins running with the foliation in places. Vein at lower contact.

STRUCTURES

From	To	Struct	CA	Strain
5.00	10.90	FOL	50	S

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
5.00	7.50	M			W	M								
7.50	13.90	M			M		W							

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
5.00	7.50	20	LWV	RBV	CB	QZ-CB	40	60
7.50	12.00	5	LWV		CB		12	35

Oxidised

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%

SAMPLES

From	To	Sample	Au g/t	Type
5.00	6.00	VR13293 B	0.001	CORE
6.00	7.00	VR13294 B	0.002	CORE
7.00	8.00	VR13295 B	0.004	CORE

From	To	Litho
5.00	13.90	1e

(Continued from previous page)

STRUCTURES

From	To	Struct	CA	Strain
10.90	13.90	FOL	55	VW

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
14.40	15.20	W			W									

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
12.00	13.90	10	LWV	RBV	CB	QZ-CB	40	60
14.40	15.20	1	LWV		CB		5	50
15.20	18.80	5	EGQV		QZ-CA		5	45

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%

SAMPLES

From	To	Sample	Au g/t	Type
8.00	9.00	VR13296 B	0.003	CORE
9.00	10.00	VR13297 B	0.002	CORE
10.00	11.00	VR13298 B	0.001	CORE
11.00	12.00	VR13299 B	0.0005	CORE
12.00	12.00	VR13300 B	0.0005	BLK
12.00	13.00	VR13301 B	0.001	CORE
13.00	13.80	VR13302 B	0.016	CORE
15.20	16.00	VR13303 B	0.272	CORE

From	To	Litho
14.40	15.20	15c

Ultramafic Intrusive - Light green-grey to dark grey, porphyritic, fine to medium subhedral dark phenocrysts in a lighter, fine grained crystalline matrix. Upper part more of a blotchy porphyritic look. Sharp chilled lower contact.

Hematite reddening of schist unit below.

From	To	Litho
15.20	26.40	SHZ

Shear Z0ne - Light grey, strongly foliated, sericite-chlorite-silica-pyrite schist with significant white grey quartz veins in the centre of the unit that also contain chlorite and pyrite. Micro folding of 70 CA schistosity and pyrite bands @ 19.4m. Green mica (Roscoite?) whisps in the foliation @ 25.9m.

Thin chlorite also in quarts veins.

EMP-19-01

Initials: _____

From	To	Litho
15.20	26.40	SHZ

Shear Z0ne - Light grey, strongly foliated, sericite-chlorite-silica-pyrite schist with significant white grey quartz veins in the centre of the unit that also contain chlorite and pyrite. Micro folding of 70 CA schistosity and pyrite bands @ 19.4m. Green mica (Roscoite?) whisps in the foliation @ 25.9m.

STRUCTURES

From	To	Struct	CA	Strain
15.20	26.40	FOL	50	VS

secondary pyrite banding @ 70 CA 21.7m.

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
15.20	26.40	S		S	M				S					

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
18.80	19.20	100	LWV		QZ		1	40
			Also some chlorite and pyrite.					
19.20	20.60	15	EGQV	SEVA	QZ-CB	QZ	10	45
			Stockwork sygmoidal quartz veins run @ 15 CA and cut other veining.					
20.60	20.90	95	LWV		QZ-CH		1	40
			Plus pyrite.					
20.90	26.40	5	EGQV		QZ-CB		5	55
			Similar to top of unit.					

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
15.20	22.10	7	VLT	-				
		Subhedral fine to medium crystals in thin bands within foliationwith a few instances crosscutting foliation and also coarser in large quartz veins.						
22.10	26.40	2	DISS	-	CP	0.1		
		Possible chalcopyrite @ 22.2m.						

SAMPLES

From	To	Sample	Au g/t	Type
16.00	17.00	VR13304 B	0.03	CORE
17.00	18.00	VR13305 B	0.026	CORE
18.00	18.80	VR13306 B	0.07	CORE
18.80	19.10	VR13307 B	0.186	CORE
19.10	20.00	VR13308 B	2.33	CORE
20.00	20.60	VR13309 B	1.305	CORE
20.60	20.60	VR13310 B	8.77	228
20.60	20.90	VR13311 B	1.69	CORE
20.90	22.00	VR13312 B	1.355	CORE
22.00	23.00	VR13313 B	0.027	CORE
23.00	24.00	VR13314 B	0.009	CORE
24.00	25.00	VR13315 B	0.005	CORE

From	To	Litho
15.20	26.40	SHZ

(Continued from previous page)

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
																																						25.00	26.00	VR13316 B	0.039	CORE
																																					26.00	26.40	VR13317 B	0.065	CORE

From	To	Litho
26.40	37.30	14a

Diabase Dike - Dark grey, fine grained, massive and magnetic..Some quartz veining with sulphides present in places and some have weak epidote alteration around them. Also some low angle hematite-carbonate veins. Veined and sheared lower contact.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
26.40	37.30	FRC	50	VW	26.40	37.30	M			M		W							VW	26.40	37.30	3	LWV	RBV	QZ-CB	CA-	20	70	26.40	37.30	1	DISS	-	CP	0.1					
					Concentrated around veins and fractures.															*Lots of very thin veins and a few larger ones.*											*Possible chalcopyrite in one vein @ 28m.*											
																																						26.70	27.00	VR13318 B	0.017	CORE
																																					27.90	28.20	VR13319 B	0.018	CORE
																																					28.20	28.20	VR13320 B	0.012	DUP
																																					34.90	35.60	VR13321 B	0.002	CORE

From	To	Litho
37.30	46.90	SHZ

Shear Zone - Light grey, strongly foliated, sericite-chlorite-biotite-silica-pyrite schist.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
																																						37.30	38.00	VR13322 B	0.01	CORE
					37.30	44.20	S		S	M		W		S																												
37.30	46.90	FOL	35	VS																37.30	46.90	3	EGQV	LWV	QZ-CB	QZ	20	60	37.30	46.90	5	VLT	-	PO	2					
																				No major quartz veins in this unit.										*Bands of fine subhedral grains in the foliation, Small intervals of pyrrhotite bands in places.*											
																																						38.00	39.00	VR13323 B	0.007	CORE

From	To	Litho
37.30	46.90	SHZ

(Continued from previous page)

STRUCTURES					ALTERATION														VEINS									MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
																																						39.00	40.00	VR13324 B	0.002	CORE
																																					40.00	41.00	VR13325 B	0.019	CORE
																																					41.00	42.00	VR13326 B	0.017	CORE
																																					42.00	43.00	VR13327 B	0.036	CORE
																																					43.00	44.00	VR13328 B	0.272	CORE
																																					44.00	45.00	VR13329 B	0.861	CORE
					44.20	46.90	S		W	M		M		S																											
					Biotite - M.																																					
																																					45.00	45.00	VR13330 B	0.0005	BLK
																																					45.00	46.00	VR13331 B	0.109	CORE
																																					46.00	46.80	VR13332 B	0.011	CORE

From	To	Litho
46.90	63.30	1e

Mafic Schist - Grey, fine grained to aphanitic, banded and moderately foliated schist. Mostly all moderately silicified and some pervasive carbonate alteration.
Lacks the pyrite bands of the previous unit. Ptygmatic microfolding at 54.4m.

STRUCTURES					ALTERATION														VEINS									MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
																													46.90	50.20	1	DISS	-									
46.90	63.30	FOL	60	M	46.90	63.30	M			M		W		M						46.90	63.30	5	LWV	EGQV	QZ-CB	QZ		25	55												
																				Some sulphides in and around the veining.																								
																																					48.00	49.00	VR13334 B	0.001	CORE
																																					49.00	50.00	VR13335 B	0.005	CORE
																																					50.00	51.00	VR13336 B	0.012	CORE
																													50.20	50.30	3	DISS	-	CP	1							
																													50.30	60.50	1	DISS	-									
																																					51.00	52.00	VR13337 B	0.005	CORE

From	To	Litho
46.90	63.30	1e

(Continued from previous page)

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
																																						52.00	53.00	VR13338 B	0.002	CORE
																																					53.00	54.00	VR13339 B	0.001	CORE
																																					54.00	54.00	VR13340 B	0.532	218
																																					54.00	55.00	VR13341 B	0.002	CORE
																																					55.00	56.00	VR13342 B	0.002	CORE
																																					56.00	57.00	VR13343 B	0.001	CORE
																																					57.00	58.00	VR13344 B	0.002	CORE
																																					58.00	59.00	VR13345 B	0.001	CORE
																																					59.00	60.00	VR13346 B	0.004	CORE
																																					60.00	61.00	VR13347 B	0.001	CORE
																													60.50	63.30	3	DISS	-	PO	1						
																													Pyrhhotite in carbonate-chlorite shear veins.												
																																						61.00	62.00	VR13348 B	0.001	CORE
																																					62.00	63.30	VR13349 B	0.001	CORE

From	To	Litho
13.90	14.40	15

Lamprophyre - Black and white speckled, medium grained, crystalline mix of biotite and carbonate pheoncrysts.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
					13.90	14.00	M					M																														
																				13.90	14.40	1	LWV		CB			5	50												
14.00	14.10	FLT	50	S																																					
Chloritic crushed zone.																																									
					14.00	14.20	S			S																																
					14.20	14.40	W					W																														

From	To	Litho
63.30	65.50	1a

Basalt - Dark green, mostly fine grained and massive with small sections of weak foliation especially around veins. Lower contact is a laminated quartz vein.

STRUCTURES

From	To	Struct	CA	Strain
63.30	65.40	FOL	50	W
65.40	65.50	CNT	45	M

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
63.30	65.50	M			M		W							

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
63.30	65.50	3	LWV		QZ-CB		9	40

Pyrrhotite with carbonate

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
63.30	65.50	1	DISS	-	PO	2		

Pyrrhotite in carbonate veins

SAMPLES

From	To	Sample	Au g/t	Type
63.30	63.30	VR13350 B	0.001	DUP

From	To	Litho
65.50	66.50	4f

Iron Formation - Dark green-grey, banded magnetite with carbonate and some pyrrhotite and green chert with chloritic layers. Laminated quartz veining with chlorite in the top half of the unt.

STRUCTURES

From	To	Struct	CA	Strain
65.50	66.50	BDG	50	M

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
65.50	66.50	M			M		W		M					

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
65.50	66.10	30	RBV		QZ		25	50
66.10	66.50	2	STYV		CB		15	30

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
65.50	66.50	1	DISS	-	PO	5		

SAMPLES

From	To	Sample	Au g/t	Type

From	To	Litho
66.50	74.90	1e

Mafic Schist - Grey-green, banded \ foliated, chloritic granular to fine grained aphanitic. The intensity of the strain is already weakening towrds the bottom of the unit until it meets an ultramafic intrusion (possibly lamprophyre but more chloritic stretched phenocrysts). By 72m the chloritic bands are obvious pillow margins and the foliation caused by stretched pillows.

STRUCTURES

From	To	Struct	CA	Strain
66.50	74.80	FOL	35	M
74.80	74.90	CNT	60	M

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
66.50	74.90	W			W				W					

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
66.50	74.90	2	VBX	RBV	CB	QZ	12	35

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
66.50	74.90	1	DISS	-	PO	1		

Sulphides in the pillow margins and breccia veins.

SAMPLES

From	To	Sample	Au g/t	Type

From	To	Litho
74.90	75.20	15c

Ultramafic Intrusive - Grey, medium grained, weakly foliated, chlorite-carbonate schist. Possibly lamprophyre. Causes induration of the host basalt at contacts and in xenoliths.

STRUCTURES

From	To	Struct	CA	Strain
74.90	75.20	FOL	60	W

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
74.90	75.20	M			M		M		W				W	

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
74.90	75.20	5	STYV		QZ-CB		10	60

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%

SAMPLES

From	To	Sample	Au g/t	Type

From	To	Litho
75.20	75.90	1b

Pillow Basalt - Dark gree-grey, deformed and altered pillows with chloritic margins making a weak and erratic foliation. Carbonate breccia veins further complicate the texture of the unit. Sharp and very altered lower contact with the next lamprophyre intrusion.

STRUCTURES

From	To	Struct	CA	Strain
75.20	75.80	FOL	40	M
75.80	75.90	CNT	20	M

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
75.20	75.90	M			M		M		M				M	

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
75.20	75.90	20	VBX	STYV	CB	CB	12	60

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
75.20	75.90	1	VLT	-	PO	1		

SAMPLES

From	To	Sample	Au g/t	Type

From	To	Litho
75.90	76.30	15b

Lamprophyre - Grey, medium grained, well foliated chlorite (after biotite)-carbonate schist. Relic biotite phenocrysts apparent in this unit. Alteration at both contacts with the basalt and lots of veining at the lower contact.

STRUCTURES

From	To	Struct	CA	Strain
75.90	76.20	FLT	40	S
76.20	76.30	CNT	50	

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
75.90	76.30	M			M		M						M	

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
75.90	76.30	2	STYV		CB		5	50

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%

SAMPLES

From	To	Sample	Au g/t	Type

From	To	Litho
76.30	84.40	1a

Basalt - Dark green, fine grained, mostly massive with some small intervals of weak banding and perhaps one chloritic relic pillow margin.

STRUCTURES

From	To	Struct	CA	Strain
76.30	84.30	FRC	70	

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%

SAMPLES

From	To	Sample	Au g/t	Type

From	To	Litho
76.30	84.40	1a

Basalt - Dark green, fine grained, mostly massive with some small intervals of weak banding and perhaps one chloritic relic pillow margin.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
					76.30	84.40	M			M								W	W	76.30	84.40	5	VBX	RBV	CB	QZ-TO	12	50	76.30	84.40	2	DISS	-	PO	3								

Pyrrhotite in QZ-TO veins also.

84.30	84.40	CNT	60	

From	To	Litho
84.40	84.70	15a

Lamprohyre -Brown-grey, medium grained biotite phenocrysts, weakly and erratically foliated in a crystalline carbonate matrix, sometimes equigranular. Similarly indurates the host basalt with albite alteration. Sharp lower contact.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
84.40	84.70	CNT	60	W	84.40	84.70	W			W		W						M		84.40	84.70	5	VBX	STYV	CB	CB	25	35	84.40	84.70	2	DISS	-								

From	To	Litho
84.70	86.00	1a

Basalt - Dark green, fine grained, massive, pervassively chloritic basalt. This is a small part of a larger sequence of basalt flows broken up by lamprophyre dikes.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
84.70	86.00	FRC	45	W	84.70	86.00	W			W		W						W	W	84.70	86.00	5	VBX	STYV	CB	CB	18	50	84.70	86.00	1	DISS	-								

From	To	Litho
86.00	86.10	15b

Lamprophyre -Green-grey, chloritic-carbonate schist with some relic biotite phenocrysts similar to the earlier intrusions in this drill hole. Well foliated. Similar alteration of wall rock.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
86.00	86.10	CNT	70	S	86.00	86.10	S			S		S						M		86.00	86.10	1	STYV		CB		10	70												

Initials: _____

From	To	Litho
86.10	100.50	1b

Pillow Basalt - Dark green, fine grained, pervassively chloritic more obviously around pillow margins that make swirling bands at intervals throughout the core.
Carbonate-quartz breccia veins , often with pyrrhotite break up the pattern. Fine disseminated pyrite throughout.

STRUCTURES

From	To	Struct	CA	Strain
86.10	100.50	FRC	45	W

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
86.10	94.60	M			M									
94.60	94.80	S		S	W		M							S
94.80	100.50	M			M		M							

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
86.10	100.50	5	VBX	STYV	QZ-CB	CB	18	30

Pyrrhotite in quartz-carbonate veins.

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
86.10	100.50	2	DISS	-	PO	1		

SAMPLES

From	To	Sample	Au g/t	Type

DRILL LOG TITLE PAGE

Hole ID	**EMP-19-02**	***Project***	**Empress**

Section	6E	***Easting***	502100	***Source***	GPS
Site	Surface	***Northing***	5412350	***Azimuth***	350
Twp	Syine	***Elevation***	363	***Dip***	-60
		Grid	UTM NAD83	***Length***	111.00 ***m***

Logged by	Troy Gill	***DDH Started***	10-Sep-19
Geotechnician	Troy Gill	***DDH Finished***	12-Sep-19
Geotech Type	Basic	***Log Completed***	28-Sep-19
Drill Contractor	Richard's Exploration	***Last Updated***	28-Sep-19
Core Size	BTW		

Available Analyses:	***FA***	Yes	***GRAV***	No	***MET***	No	***ICP***	Yes	***WR***	No

Summary

Testing Section 6 East from 50m away.

Sanatana Resources Inc. Drill Log

Empress

Signature: _____

Initials: _____

EMP-19-02

From	To	Litho
0.00	2.00	OVB

STRUCTURES

From	To	Struct	CA	Strain

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%

SAMPLES

From	To	Sample	Au g/t	Type

From	To	Litho
2.00	9.40	1

Basalt - Dark greean, fine grained, mostly massive with small sections of foliation.

STRUCTURES

From	To	Struct	CA	Strain
2.00	9.40	FOL	45	W

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
2.00	9.40	M			M		W							W

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
2.00	9.40	5	RBV	VBX	QZ-CB	CB	15	45

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
2.00	9.40	1	DISS	-	PO	1	CP	1

SAMPLES

From	To	Sample	Au g/t	Type
8.00	9.40	VR13351 B	0.0005	CORE

From	To	Litho
9.40	27.70	SHZ

Shear Zone - variably dark brown-green to cream coloured due to changes in alteration, intensely sheared with alternate layers of lighter sericitic silicification and darker biotite +/- chlorite giving the rock a tiger striped appearance. Sygmoidal grey quartz in places caught up in the deformtion. Pyrite stringers are in the foliation too.

STRUCTURES

From	To	Struct	CA	Strain
9.40	27.70	FOL	60	VS

Tiger stripped pattern

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
9.40	11.80	S			M	S			M					W
11.80	14.20	S				W			M					

BT = S

BT = S

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
9.40	27.70	2	RBV		QZ		6	70

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
9.40	15.80	1	DISS	-				

SAMPLES

From	To	Sample	Au g/t	Type
9.40	10.00	VR13352 B	0.001	CORE
10.00	11.00	VR13353 B	0.0005	CORE
11.00	12.00	VR13354 B	0.0005	CORE
12.00	13.00	VR13355 B	0.0005	CORE

From	To	Litho
9.40	27.70	SHZ

(Continued from previous page)

STRUCTURES					ALTERATION													VEINS								MINERALIZATION								SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
																																					13.00	14.00	VR13356 B	0.0005	CORE
																																					14.00	15.00	VR13357 B	0.0005	CORE
					14.20	18.90	S			S	S			M																										
					BT = W, grey quartz lenses.																																				
																																					15.00	16.00	VR13358 B	0.001	CORE
																												15.80	22.60	5	VLT	-								
																																					16.00	17.00	VR13359 B	0.003	CORE
																																				17.00	17.00	VR13360 B	0.0005	BLK
																																				17.00	18.00	VR13361 B	0.001	CORE
																																				18.00	19.00	VR13362 B	0.007	CORE
					18.90	21.60	S				W			M																										
					BT = S, stretched pebbles?																																				
																																					19.00	20.00	VR13363 B	0.0005	CORE
																																					20.00	21.00	VR13364 B	0.002	CORE
																																					21.00	22.00	VR13365 B	0.0005	CORE
					21.60	27.70	S			M	M			M																										
					BT = M																																				
																																					22.00	23.00	VR13366 B	0.002	CORE
																												22.60	27.70	1	DISS	-								
																																					23.00	24.00	VR13367 B	0.008	CORE
																																				24.00	25.00	VR13368 B	0.001	CORE
																																				25.00	26.00	VR13369 B	0.005	CORE
																																				26.00	26.00	VR13370 B	8.72	STD
																																				26.00	27.00	VR13371 B	0.003	CORE
																																				27.00	27.70	VR13372 B	0.003	CORE

From	To	Litho
27.70	30.10	15c

Ultramafic Intrusions - Dark grey, sequence of 6 narrow porphyritic ultramafic intrusions into the shear zone altered schists. Some with biotite and carbonate matrix can be called lamprophyre, but many are just dark minerals in a lighter aphanitic groundmass. Foliated host rock still altered with sulphides.

STRUCTURES

From	To	Struct	CA	Strain
27.70	30.10	CNT	80	W

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
27.70	30.10	M			W	M	M		M					

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
27.70	30.10	3	VBX	RBV	CB	CB	12	45

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
27.70	30.10	2	VLT	-				

SAMPLES

From	To	Sample	Au g/t	Type
27.70	29.00	VR13373 B	0.023	CORE
29.00	30.10	VR13374 B	0.0005	CORE

From	To	Litho
30.10	43.20	SHZ

Shear Zone - Light grey, continuation of the same shear zone with more distinctive biotite-chlorite-carbonate sections and the sericitic zone carrying more sulphide especially around the larger quartz veins.

STRUCTURES

From	To	Struct	CA	Strain
30.10	43.20	FOL	65	S

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
30.10	34.70	S			M		M		W					
		BT = S												
34.70	35.80	S			W	S			S					W
35.80	37.60	S			W		M		W					
		BT = S												

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
30.10	40.70	2	STYV	EGQV	CB	QZ	15	70

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
30.10	37.20	1	DISS	-				
37.20	41.30	7	VLT	-				

SAMPLES

From	To	Sample	Au g/t	Type
30.10	31.00	VR13375 B	0.037	CORE
31.00	32.00	VR13376 B	0.004	CORE
32.00	33.00	VR13377 B	0.007	CORE
33.00	34.00	VR13378 B	0.0005	CORE
34.00	34.70	VR13379 B	0.0005	CORE
34.70	34.70	VR13380 B	0.0005	DUP
34.70	35.80	VR13381 B	0.007	CORE
35.80	37.00	VR13382 B	0.092	CORE
37.00	37.60	VR13383 B	1.035	CORE

From	To	Litho
30.10	43.20	SHZ

(Continued from previous page)

STRUCTURES

From	To	Struct	CA	Strain

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
37.60	43.20	S				S			S					

Most pyritic part of shear zone.

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
40.70	41.20	95	LWV		QZ		5	55
41.20	43.20	1	EGQV		QZ		3	60

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
41.30	43.20	1	DISS	-				

SAMPLES

From	To	Sample	Au g/t	Type
37.60	39.00	VR13384 B	0.501	CORE
39.00	40.00	VR13385 B	0.333	CORE
40.00	40.80	VR13386 B	0.033	CORE
40.80	41.20	VR13387 B	0.036	CORE
41.20	42.00	VR13388 B	0.005	CORE
42.00	43.20	VR13389 B	0.003	CORE

From	To	Litho
43.20	62.70	1e

Mafic Schist - Dark green-grey, fine grained, variably moderately to well foliated schist, most likely after basalt. Some chlorite-carbonate +/- magnetite shear veins at intervals. Others with pyrite. Intensity of foliation diminishes towards the end and the rock becomes hornfelsed basalt.

STRUCTURES

From	To	Struct	CA	Strain
43.20	62.70	FOL	55	M

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
43.20	62.70	M				M		M						

Magnetite - W

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
43.20	62.70	10	SHV	STYV	CB	CB	18	50

CB-CH-MT

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
43.20	56.40	1	DISS	-				
56.40	57.60	3	VLT	-				
57.60	58.70	1	DISS	-				
58.70	59.30	5	VLT	-				
59.30	61.60	1	DISS	-				
61.60	62.60	2	DISS	-				
62.60	62.70	1	DISS	-				

SAMPLES

From	To	Sample	Au g/t	Type
43.20	43.20	VR13390 B	0.004	BLK
43.20	44.00	VR13391 B	0.001	CORE
56.40	57.60	VR13392 B		CORE
58.70	59.30	VR13393 B		CORE
61.60	62.60	VR13394 B		CORE

From	To	Litho
43.20	62.70	1e

(Continued from previous page)

STRUCTURES					ALTERATION													VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type

From	To	Litho
62.70	65.10	1f

Amphibolite - Dark green, medium grained, subhedral dark minerals, presumably amphibole but possibly a pyroxene set in a lighter coloured finer grained matrix. Weakly foliated mostly throughout and besoming a schist towards the lower part of the unit withthin carbonate veins in the foliation.

STRUCTURES					ALTERATION													VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
62.70	65.10	FOL	45	W	62.70	65.10	M			M		W								62.70	65.10	2	STYV	VBX	CB	CB	30	20												

From	To	Litho
65.10	65.60	SHZ

Shear Zone - Brown, intensley foliated with many carbonate stringer veins and a few grey quartz veins plus disseminated pyrite. Silicified and biotite alteration.

STRUCTURES					ALTERATION													VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
65.10	65.60	FOL	70	S	65.10	65.60	M					M		W						65.10	65.60	40	STYV	EGQV	CB	QZ	100	70	65.10	65.60	5	DISS	-					65.10	65.60	VR13395 B		CORE

BT = M

From	To	Litho
65.60	66.50	15

Lamprophyre - Grey, medium grained carbonate dominated with chlorite presumably after biotite, weakly foliated.

STRUCTURES					ALTERATION													VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
65.60	66.50	CNT	60	W	65.60	66.50	S			M		S								65.60	66.50	1	RBV	STYV	CB	CB	5	30												

CB-CH RBV

From	To	Litho
66.50	67.30	1

Mafic Metavolcanic - Dark green, medium to fine grained, chloritic and carbonate ltered, something between the amphibolite and a pillow basalt. Starts of sheared against the lamprophyre contact

STRUCTURES

From	To	Struct	CA	Strain
66.50	67.30	FOL	60	W

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
66.50	67.30	W			W		W							

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
66.50	67.30	5	STYV		CB		20	30

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
66.50	66.60	3	DISS	-				

SAMPLES

From	To	Sample	Au g/t	Type

From	To	Litho
67.30	67.70	3

Metasediments - Light grey, regular ~1cm banded, weakly silicified and chloritic with some deformation and veining with sulphides towards the end. First 10cm looks albite altered and possibly represents flow top transition to interflow sediments.

STRUCTURES

From	To	Struct	CA	Strain
67.30	67.70	BDG	60	W

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
67.30	67.70	W			W		W		W				W	

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
67.30	67.70	3	RBV		CB		6	50

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
67.30	67.60	1	DISS	-				
67.60	67.70	20	DISS	-				

SAMPLES

From	To	Sample	Au g/t	Type

From	To	Litho
67.70	68.70	1

Metavolcanic - Dark grey-brown, fine grained and massive with lots of thin carbonate veining.

STRUCTURES

From	To	Struct	CA	Strain
67.70	68.70	CNT	40	W

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
67.70	68.70	W			W		W							

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
67.70	68.70	10	STYV		CB		25	30

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%

SAMPLES

From	To	Sample	Au g/t	Type

From	To	Litho
68.70	69.30	3

Metasediments - grey-brown, similar banded unit.

STRUCTURES

From	To	Struct	CA	Strain
68.70	69.30	BDG	65	W

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
68.70	69.30	W			W		W							

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
68.70	69.30	10	STYV		CB		40	70

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
68.70	69.30	1	DISS	-				

SAMPLES

From	To	Sample	Au g/t	Type

From	To	Litho
69.30	70.00	15

Lamprophyre - Light grey, similar to above, perhaps more original biotite.

STRUCTURES

From	To	Struct	CA	Strain
69.30	70.00	CNT	70	W

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
69.30	70.00	M			W		M							

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
69.30	70.00	5	STYV		CB		15	50

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%

SAMPLES

From	To	Sample	Au g/t	Type

From	To	Litho
70.00	72.00	3

Metasediments - Grey-brwon, banded to moderatley foliated with carbonate stringers and carbonate-chlorite breccia veins.

STRUCTURES

From	To	Struct	CA	Strain
70.00	72.00	FOL	70	W

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
70.00	72.00	M			M		M						VW	

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
70.00	72.00	10	STYV	VBX	CB	CB	45	70

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%

SAMPLES

From	To	Sample	Au g/t	Type

From	To	Litho
72.00	80.40	15b

Foliated Lamprophyre - Brown-grey, variably weakly foliated biotite and carbonate schist. Some might prefer to simply call this a shear zone, but I chose to name it based on mineralogy. 10cm raft of metaseds at 75.5m.

STRUCTURES

From	To	Struct	CA	Strain
72.00	80.40	FOL	40	M

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
72.00	80.40	W			W		W							

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
72.00	80.40	5	STYV	RBV	CB	QZ-CB	10	30

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
72.00	80.40	1	DISS	-				

SAMPLES

From	To	Sample	Au g/t	Type

From	To	Litho
80.40	82.80	3

Metasediments - Dark grey, similar foliated unit between lamprophyres.

STRUCTURES

From	To	Struct	CA	Strain
80.40	82.80	FOL	50	M

ALTERATION

From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP
80.40	82.80	M			M		W						W	

VEINS

From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA
80.40	82.80	2	STYV	RBV	CB	CB	15	30

MINERALIZATION

From	To	PY%	Style	VG	Min	Min%	Min2	M2%
80.40	80.60	5	DISS	-				
80.60	81.10	1	DISS	-				
81.10	81.40	10	VLT	-	PO	10		
81.40	82.80	1	DISS	-				

SAMPLES

From	To	Sample	Au g/t	Type

From	To	Litho
82.80	84.80	15b

Foliated Lamprophyre - Green-grey, similar to previous.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION										SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
82.80	84.80	FOL	35	M	82.80	84.80	M			M		M						W		82.80	84.80	1	STYV	cb			8	20													

From	To	Litho
84.80	86.40	1b

Pillow Basalt - Green-grey, fine grained, weakly foliated but with relic pillow margins marked by swirling green colour variation.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION										SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
																													84.80	85.90	1	DISS	-									
84.80	86.40	FOL	40	W	84.80	86.40	W			W		W								84.80	86.40	3	VBX	STYV	QZ-CB	CB	12	30													
																													85.90	86.00	3	DISS	-									
																													86.00	86.40	1	DISS	-									

From	To	Litho
86.40	86.80	15b

Foliated Lamprophyre - Green-grey, finger of same lamprophyre unit.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION										SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
86.40	86.80	FOL	15	S	86.40	86.80	M			M		M								86.40	86.80	1	STYV		CB		6	30													

From	To	Litho
86.80	90.40	1b

Pillow Basalt - Grey-green, similarly weakly foliated unit as previous.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION										SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
86.80	90.40	FOL	50	W	86.80	90.40	M			M		W								86.80	90.40	5	RBV	VBX	CB	QZ-CB	15	20	86.80	90.40	2	DISS	-									

From	To	Litho
90.40	91.20	3

Metasediments - Brown-grey, altered and deformed up against the next lamprophyre although some banding is still there.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
90.40	91.20	BDG	40	M	90.40	91.20	W			W		W		W						90.40	91.20	5	STYV		CB		10	30	90.40	91.20	2	DISS	-									

From	To	Litho
91.20	96.20	15b

Foliated Lamprophyre - Grey, variably weakly foliated to some parts that are biotite porphyritic. Less altered, fresher looking.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
91.20	96.20	FOL	30	W	91.20	96.20	W					W								91.20	96.20	7	STYV	VBX	CB	QZ-CB	15	70	91.20	96.20	2	DISS	-									

From	To	Litho
96.20	97.60	1e

Mafic Schist - Green-grey, fine grained, chloritic, massive to weakly foliated metavolcanic. Many thin carbonate stringers at upper contact with lamprophyre.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
																													96.20	96.50	3	DISS	-									
96.20	97.60	CNT	80	W	96.20	97.60	M			M					W					96.20	97.60	5	STYV		CB		30	50												

From	To	Litho
97.60	98.30	15

Lamprophyre - Grey, more of a carbonate dominated type.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
97.60	98.30	CNT	80	VW	97.60	98.30	M			W		S								97.60	98.30	1	STYV		CB		2	60												

From	To	Litho
98.30	101.80	1b

Pillow Basalt - Green-grey, fine grained chloritic with swirling relic pillow margin textures attacked with carbonate veining.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
98.30	101.80	CNT	20	VW	98.30	101.80	M			M		W								98.30	101.80	3	STYV		CB		15	40	98.30	101.80	1	DISS	-									

From	To	Litho
101.80	102.90	15a

Biotite Porphyritic Lamprophyre - Green-grey, distinctly porphyritic with more of a chloritic groundmass. Section of sulphidic country rock xenolith in the middle.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
101.80	102.90	CNT	60	W	101.80	102.90	M			M		W								101.80	102.90	1	STYV		CB		2	25	101.80	102.90	2	DISS	-									

From	To	Litho
102.90	111.00	1b

Pillow Basalt - Green, fine grained, massive chloritic with relic pillow margin textures.

STRUCTURES					ALTERATION														VEINS								MINERALIZATION									SAMPLES				
From	To	Struct	CA	Strain	From	To	INT	TC	SR	CH	SE	CB	FU	SI	CA	TO	C	AB	EP	From	To	Vn%	Style 1	Style 2	Type 1	Type 2	V/m	CA	From	To	PY%	Style	VG	Min	Min%	Min2	M2%	From	To	Sample	Au g/t	Type
102.90	111.00	FRC	60		102.90	111.00	M			M		W								102.90	111.00	10	STYV	RBV	CB	QZ-CB	20	20	102.90	111.00	1	DISS	-									

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GEOLOGICAL LOG FIELDS AND CODES DESCRIPTION

LITHOLOGY

Litho	Description
1	Mafic Metavolcanic (Unsubdivided)
1a	Massive basalt
1b	Pillow basalt
1c	Mafic Tuff
1d	Amygdaloidal Basalt
1f	Mafic Schist
1g	Amphibolite
1h	Mafic Gneiss
2	Intermediate Metavolcanic (Unsubdivided)
2a	Intermediate Flow
2b	Intermediate Lapilli tuff
2c	Intermediate Tuff breccia
2d	Volcanogenic sandstone to siltstone
2e	Intermediate Crystal tuff
2g	Intermediate Schist
2j	Intermediate Flow breccia
3	Felsic Metavolcanic (Unsubdivided)
3a	Felsic Flow
3b	Felsic Lapilli tuff
3c	Tuff breccia
3d	Quartz porphyritic volcanic
3e	Autoclastic flow breccia
3f	Hydrothermal breccia, with chlorite veining
3g	Felsic Schist

Litho	Description
4	Metasediment (Unsubdivided)
4a	Conglomerate, boulders and cobbles
4b	Pebbly sandstone, matrix supported
4c	Sandstone, arkosic sandstone, arenite
4d	Siltstone and mudstone
4e	Schist
4f	Chert
4g	Iron Formation
5	Mafic Intrusive (Unsubdivided)
5a	Gabbro
5b	Diorite
5c	Mafic Pegmatite
5g	Mafic Intrusive breccia
5h	Mafic Dike
6	Intermediate Intrusive (Unsubdivided)
6a	Quartz diorite
6b	Monzonite
6c	Monzodiorite with hematite-stained feldspar
6d	Syenite
6e	Feldspar porphyry
6em	Feldspar porphyry - mafic
6eq	Quartz-Feldspar Porphyry
6f	Intermediate Intrusive breccia
6g	Intermediate Dike

Litho	Description
7	Felsic Synvolcanic Intrusive (Unsubdivided)
7a	Tonalite
7b	Trondhjemite
7c	Granodiorite
7d	Chlorite bearing breccia
7e	Pegmatite dike
7f	Quartz porphyry
7g	Intrusion breccia
7h	Aplite dike
7i	Felsic Schist
8	Felsic post volcanic Intrusive (Unsubdivided)
8a	Biotite tonalite
8b	Biotite + amphibole tonalite
8c	Biotite granodiorite
8d	Biotite + amphibole granodiorite
8e	Amphibole quartz monzonite to granodiorite
8f	Quartz–potassium feldspar megacrystic granite
8g	Foliated / sheared granite
8h	Granite gneiss
8i	Xenolithic granite
8j	Granite: aplite and/or pegmatite
8k	Magnetite bearing granite

Litho	Description
9	Diabase (unsubdivided)
9a	Gabbro to quartz gabbro
9b	Plagioclase phyric diabase
9c	Fine grained diabase
9d	Medium grained diabase
9e	Coarse grained diabase
9f	Xenolithic diabase
10	Lamprophyre (unsubdivided)
10a	Porphyritic Lamprophyre (ferromagnesian)
10b	Porphyritic Lamporphyre (feldspathic)
10c	Ultramafic intrusive
OVB	overburden
QSW	quartz stockwork
QVO	quartz vein
SHZ	Shear zone
ZFZ	fault zone/gouge

ALTERATION

Min	Description
AB	Albite
AK	Ankerite
AM	Amphibole
BT	Biotite
CC	Calcite
CL	Chlorite
DL	Dolomite
EP	Epidote
FD	Feldspar
FU	Fuchsite
GP	Graphite
GT	Garnet
HB	Hornblende
LX	Leucoxene
MT	Magnetite
MU	Muscovite
PL	Plagioclase
PX	Pyroxene
SR	Sericite
TC	Talc
TR	Tourmaline

Int	Description
VW	Very Weak
W	Weak
M	Moderate
S	Strong
VS	Very Strong
-	Not Recorded

MINERALIZATION

Style	Description
AN	Anhedral
CG	Coarse grained
DISS	Disseminated
EUH	Euhedral
FG	Fine grained
MS	Massive
MG	Medium grained
SM	Semi massive
SEUH	Sub-Euhedral
VLT	Veinlets

Min	Description
AS	Arsenopyrite
CP	Chalcopyrite
GN	Galena
MO	Molybdenite
PO	Pyrrhotite
SP	Sphalerite
HM	Hematite

VG	Description
VG	visible gold noted (historical)
VG1	weak (1 or 2 specks)
VG2	moderate (3-10 specks)
VG3	strong (>10 specks)
-	not recorded

STRUCTURE

Type	Description
-	Overburden
BDG	Bedding
BKY	Blocky
BXB	Breccia (brittle)
BXD	Breccia (ductile)
CNT	Contact
CRN	Crenulated
FLT	Fault
FOL	Foliation
FRC	Fracture
G	Gouge
LIN	Lineation
MS	Massive
SH	Shear
SSF	Small Scale Folds

Strain	Description
VW	Very Weak
W	Weak
M	Moderate
S	Strong
VS	Very Strong
-	Not Recorded

VEINING

Style	Description
EGQV	Early Grey Quartz Vein(s)
LWV	Late White Vein(s)
RBV	Ribboned Vein
SEV	Sheeted Extension Vein(s)
SEVA	Sigmoidal Extension Vein Array
SHV	Shear Vein(s)
STYV	Stylolitic Vein

Type	Description
AK	Ankerite
CA	Calcite
CB	Carbonate
HE	Hematite
QZ	Quartz
QZ-AB	Quartz-Albite
QZ-AK	Quartz-Ankerite
QZ-CA	Quartz-Calcite
QZ-CB	Quartz-Carbonate
QZ-FU	Quartz-Fuchsite
QZ-TO	Quartz-Tourmaline
TO	Tourmaline

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To: **SANATANA RESOURCES INC.**
908-925 WEST GEORGIA STREET
VANCOUVER BC V6C 3L2

Finalized Date: 20-SEP-2019
Account: SANATANA

CERTIFICATE TB19228861

Project: EMPRESS

This report is for 58 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 12-SEP-2019.

The following have access to data associated with this certificate:

BUDDY DOYLE	TROY GILL	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
LOG-24	Pulp Login - Rcd w/o Barcode
LOG-22d	Sample login - Rcd w/o BarCode dup
SPL-21d	Split sample - duplicate
PUL-31d	Pulverize Split - duplicate
CRU-31	Fine crushing - 70% <2mm
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize split to 85% <75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	
ME-MS61	48 element four acid ICP-MS	
Hg-MS42	Trace Hg by ICPMS	ICP-MS
Au-ICP21	Au 30g FA ICP-AES Finish	ICP-AES

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:

Colin Ramshaw, Vancouver Laboratory Manager

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Finalized Date: 20-SEP-2019
Account: SANATANA

Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19228861

Sample Description	Method / Analyte / Units / LOD	WEI-21 Recvd Wt. kg 0.02	Au-ICP21 Au ppm 0.001	ME-MS61 Ag ppm 0.01	ME-MS61 Al % 0.01	ME-MS61 As ppm 0.2	ME-MS61 Ba ppm 10	ME-MS61 Be ppm 0.05	ME-MS61 Bi ppm 0.01	ME-MS61 Ca % 0.01	ME-MS61 Cd ppm 0.02	ME-MS61 Ce ppm 0.01	ME-MS61 Co ppm 0.1	ME-MS61 Cr ppm 1	ME-MS61 Cs ppm 0.05	ME-MS61 Cu ppm 0.2
VR13293B		0.85	0.001	0.06	7.64	6.6	290	0.98	0.08	4.50	0.08	28.4	37.1	127	3.36	72.5
VR13294B		2.05	0.002	0.06	8.36	6.9	490	0.68	0.05	6.19	0.11	28.2	48.3	142	3.36	76.4
VR13295B		1.96	0.004	0.06	7.96	3.0	380	0.73	0.05	5.27	0.11	31.5	37.5	67	4.40	58.4
VR13296B		1.78	0.003	0.05	7.45	1.1	290	0.93	0.05	3.87	0.07	113.5	36.6	13	3.75	70.7
VR13297B		1.84	0.002	0.06	7.58	2.2	240	0.67	0.06	4.41	0.08	32.2	40.1	13	2.22	88.7
VR13298B		1.62	0.001	0.05	7.28	1.7	260	0.70	0.03	4.64	0.09	28.3	34.6	20	1.63	49.5
VR13299B		1.68	<0.001	0.06	7.43	1.0	140	0.73	0.04	6.55	0.11	53.8	45.7	95	1.41	38.8
VR13300B		0.18	<0.001	0.01	0.28	0.9	20	0.11	<0.01	0.05	<0.02	5.99	0.7	5	0.23	1.8
VR13301B		1.76	0.001	0.05	7.35	1.0	160	0.83	0.04	5.44	0.08	30.5	35.9	14	1.94	47.8
VR13302B		1.43	0.016	0.06	7.14	43.7	280	1.22	0.06	4.33	0.11	37.2	35.2	35	3.06	60.6
VR13303B		1.25	0.272	0.27	6.30	125.0	710	3.58	0.71	2.82	0.42	75.5	31.6	74	2.94	54.1
VR13304B		1.69	0.030	0.04	5.18	11.1	380	2.29	0.14	3.09	0.08	64.7	12.0	102	2.55	25.8
VR13305B		1.56	0.026	0.11	5.32	3.2	280	1.35	0.52	2.23	0.32	59.5	20.1	70	1.52	65.5
VR13306B		1.25	0.070	0.09	4.66	1.2	270	1.32	0.43	2.50	0.14	61.0	7.1	3	1.53	22.8
VR13307B		0.65	0.186	0.24	0.65	1.1	20	0.13	0.60	0.17	<0.02	7.94	4.1	11	0.06	6.0
VR13308B		1.49	2.33	2.10	5.23	19.0	340	1.43	2.46	2.52	0.76	37.4	62.6	29	0.97	137.0
VR13309B		1.04	1.305	0.87	4.41	9.7	200	0.93	2.94	2.81	0.41	35.8	37.8	24	0.55	68.3
VR13310B		0.07	8.77	1.98	5.10	79.8	250	0.52	0.69	3.93	0.29	11.85	32.0	436	0.73	129.5
VR13311B		0.47	1.690	1.63	0.65	1.0	80	0.16	2.79	0.26	0.03	7.89	5.5	13	0.07	17.1
VR13312B		1.73	1.355	0.79	6.05	4.3	430	1.81	1.26	1.17	0.95	91.0	19.6	17	0.94	45.7
VR13313B		1.65	0.027	0.39	6.84	0.7	310	1.60	0.50	3.37	2.54	85.3	19.2	16	1.26	177.5
VR13314B		1.60	0.009	0.16	6.28	0.8	380	1.45	0.37	3.56	1.32	77.1	11.1	38	1.36	66.0
VR13315B		1.58	0.005	0.18	5.88	0.6	450	1.36	0.33	2.12	0.33	86.9	9.3	4	1.46	52.2
VR13316B		1.78	0.039	0.16	5.71	1.0	400	1.31	0.37	3.16	0.49	68.8	14.1	65	1.89	73.8
VR13317B		0.77	0.065	0.17	5.29	5.1	530	1.39	0.58	1.77	0.09	89.0	8.7	5	0.92	57.5
VR13318B		0.62	0.017	0.50	6.85	0.9	230	0.99	1.01	4.26	0.26	34.1	54.5	81	3.35	123.0
VR13319B		0.48	0.018	0.59	5.85	0.2	160	0.66	<0.01	4.78	0.19	25.5	22.3	92	0.49	182.0
VR13320B		<0.02	0.012	0.43	5.72	0.4	160	0.64	0.01	4.74	0.19	24.8	22.7	86	0.48	201
VR13321B		1.21	0.002	0.08	7.34	1.6	240	1.65	0.06	5.48	0.06	56.7	36.9	51	2.06	72.9
VR13322B		1.26	0.010	0.37	5.81	972	290	1.17	0.23	3.25	3.36	48.1	24.1	33	1.77	260
VR13323B		1.88	0.007	0.26	6.11	4.5	210	1.16	0.20	5.73	3.86	32.7	50.4	53	1.09	226
VR13324B		1.86	0.002	0.13	7.69	4.1	270	0.98	0.21	7.51	0.22	39.2	37.1	55	1.53	80.0
VR13325B		1.80	0.019	0.20	6.18	1.7	260	0.86	0.32	8.46	0.16	32.8	37.1	52	2.27	117.0
VR13326B		1.71	0.017	0.35	5.02	5.9	290	0.83	0.57	4.17	2.06	51.0	27.5	20	1.28	264
VR13327B		1.79	0.036	0.48	4.89	5.3	240	0.98	0.79	5.52	2.18	36.4	42.8	29	1.62	291
VR13328B		1.72	0.272	0.09	5.76	1.0	390	1.52	0.46	2.30	0.17	75.1	5.2	5	0.74	31.7
VR13329B		2.06	0.861	0.36	5.64	2.0	620	1.15	0.65	2.65	1.95	55.1	21.6	24	1.45	157.0
VR13330B		0.22	<0.001	0.01	0.23	0.5	20	0.09	0.02	0.03	<0.02	5.40	0.3	5	0.21	0.7
VR13331B		1.88	0.109	0.61	5.65	2.5	500	1.15	1.09	2.67	3.14	57.6	27.3	19	1.49	189.5
VR13332B		1.67	0.011	0.33	5.88	2.0	530	0.79	0.20	4.63	2.78	37.4	34.3	27	1.96	196.0

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

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Finalized Date: 20-SEP-2019
Account: SANATANA

Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19228861

Sample Description	Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	Hg-MS42	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	Analyte	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni
	Units	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm
	LOD	0.01	0.05	0.05	0.1	0.005	0.005	0.01	0.5	0.2	0.01	5	0.05	0.01	0.1	0.2
VR13293B		7.12	20.3	0.10	1.7	<0.005	0.074	1.87	11.2	21.5	1.67	1100	0.58	1.18	8.9	101.0
VR13294B		6.58	22.0	0.08	1.4	<0.005	0.074	2.31	10.0	21.6	1.47	1090	0.58	1.27	9.1	125.0
VR13295B		8.61	22.1	0.09	2.0	<0.005	0.073	1.86	12.2	19.5	1.66	1280	0.55	1.38	8.5	79.4
VR13296B		9.68	22.6	0.13	3.1	<0.005	0.065	1.35	63.6	23.5	1.72	1500	0.62	1.48	10.4	45.2
VR13297B		8.26	22.7	0.07	3.1	<0.005	0.072	1.08	12.8	17.2	2.08	1330	0.48	1.35	8.0	43.5
VR13298B		8.74	21.6	0.07	2.5	<0.005	0.068	0.93	11.1	14.7	2.72	1340	0.57	1.37	7.2	43.3
VR13299B		9.67	20.8	0.10	2.3	<0.005	0.083	0.66	24.6	10.5	2.77	1510	0.60	1.44	9.2	111.5
VR13300B		0.45	0.77	<0.05	1.1	<0.005	<0.005	0.06	3.2	8.0	0.04	56	0.27	0.05	0.7	1.8
VR13301B		8.55	21.6	0.07	2.9	<0.005	0.066	0.61	12.3	18.6	2.60	1180	0.76	1.35	7.8	41.3
VR13302B		7.17	21.3	0.09	3.2	<0.005	0.062	0.85	15.7	25.5	2.39	1050	0.78	1.89	10.6	52.5
VR13303B		3.76	22.1	0.18	7.2	0.009	0.257	2.86	34.7	46.0	1.17	500	8.19	0.86	10.8	44.0
VR13304B		2.50	14.90	0.11	4.8	<0.005	0.078	1.78	28.7	11.8	1.21	575	4.39	1.59	7.0	42.3
VR13305B		2.45	16.75	0.13	5.5	<0.005	0.151	1.87	26.2	9.7	0.77	402	5.98	1.35	7.1	40.2
VR13306B		2.26	15.05	0.13	7.2	<0.005	0.123	1.93	27.3	10.8	0.73	668	17.45	0.84	8.6	7.2
VR13307B		0.58	2.63	<0.05	0.9	<0.005	0.021	0.14	3.5	0.9	0.03	52	62.7	0.34	0.9	4.3
VR13308B		6.41	24.1	0.09	3.4	<0.005	0.495	2.04	15.9	12.6	0.83	618	124.5	1.22	2.9	63.9
VR13309B		5.36	17.90	0.10	3.4	<0.005	0.309	0.85	14.9	6.6	0.75	661	176.5	2.24	4.8	45.4
VR13310B		4.19	12.60	<0.05	1.5	0.108	0.038	0.73	6.2	30.4	4.33	704	7.91	1.11	1.8	194.5
VR13311B		0.89	2.70	<0.05	0.7	<0.005	0.036	0.14	3.4	0.9	0.06	87	130.0	0.36	1.1	6.1
VR13312B		2.77	28.2	0.17	9.3	<0.005	0.267	2.88	40.2	15.9	0.46	293	45.5	0.69	15.8	24.1
VR13313B		4.12	24.2	0.16	8.9	0.021	0.318	3.56	38.0	19.3	1.23	1110	3.82	0.10	12.8	27.6
VR13314B		2.65	19.05	0.16	9.4	0.009	0.206	2.87	34.2	17.5	1.22	937	2.29	0.93	10.8	20.9
VR13315B		2.02	18.40	0.11	9.4	0.005	0.115	2.69	36.7	16.8	0.69	578	2.38	1.03	10.7	7.6
VR13316B		2.93	17.15	0.14	7.3	<0.005	0.152	2.76	30.8	14.2	1.05	777	3.04	0.45	9.1	31.9
VR13317B		2.18	18.55	0.15	7.1	<0.005	0.122	2.32	38.6	13.1	0.41	401	12.50	0.56	12.1	10.2
VR13318B		10.60	22.0	0.09	2.3	0.005	0.113	1.63	12.5	23.4	1.39	2040	3.77	1.92	9.3	104.5
VR13319B		6.00	13.90	0.07	1.5	<0.005	0.076	0.42	9.9	10.1	1.02	1140	0.78	2.49	7.0	52.6
VR13320B		5.83	13.05	0.08	1.7	<0.005	0.079	0.42	9.6	9.9	0.98	1120	0.83	2.46	6.8	51.0
VR13321B		10.50	23.1	0.13	3.7	<0.005	0.093	0.84	24.2	20.2	1.66	1510	0.86	1.75	12.0	47.7
VR13322B		5.17	21.6	0.13	4.7	0.092	0.422	2.09	20.4	15.0	0.60	710	2.99	1.41	8.8	44.5
VR13323B		7.57	22.4	0.09	2.9	0.088	0.450	1.37	13.3	12.6	1.69	1520	1.88	0.82	7.0	54.4
VR13324B		8.42	23.4	0.10	3.1	0.011	0.107	1.22	14.9	15.6	1.95	1690	0.89	1.48	10.2	41.0
VR13325B		8.04	19.50	0.11	1.8	0.008	0.146	1.26	12.6	15.4	2.18	1840	3.11	1.92	7.7	49.9
VR13326B		6.55	19.90	0.12	4.3	0.028	0.282	1.67	22.0	19.9	1.04	897	2.13	0.70	9.4	40.8
VR13327B		6.31	18.85	0.12	3.4	0.034	0.392	1.61	15.7	14.4	1.11	1210	2.14	0.81	7.8	44.0
VR13328B		2.06	18.90	0.16	6.7	<0.005	0.069	2.31	33.0	17.8	0.35	280	3.39	1.26	14.2	6.7
VR13329B		4.64	19.15	0.15	5.1	0.025	0.245	1.64	24.1	11.2	0.77	473	3.31	2.38	10.6	27.0
VR13330B		0.39	0.59	<0.05	1.0	<0.005	<0.005	0.06	2.9	7.1	0.01	54	0.12	0.04	0.7	1.1
VR13331B		5.37	20.2	0.13	4.8	0.057	0.441	2.31	26.0	17.4	0.83	565	3.07	1.45	10.0	38.7
VR13332B		6.41	20.2	0.13	2.8	0.068	0.441	2.39	15.9	16.9	1.24	906	1.49	0.86	8.4	52.0

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

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To: **SANATANA RESOURCES INC.**
908-925 WEST GEORGIA STREET
VANCOUVER BC V6C 3L2

Finalized Date: 20-SEP-2019
Account: SANATANA

Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19228861

Sample Description	Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	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	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02
VR13293B		1360	3.9	61.6	<0.002	0.11	0.17	26.6	1	1.3	174.0	0.51	<0.05	1.25	0.938	0.50
VR13294B		1520	3.3	67.9	0.002	0.13	0.23	30.6	<1	0.9	220	0.53	<0.05	0.86	1.135	0.36
VR13295B		1540	3.7	63.4	<0.002	0.14	0.17	30.0	1	0.9	209	0.50	<0.05	1.48	1.215	0.30
VR13296B		1590	3.5	49.8	<0.002	0.19	0.11	29.6	1	1.0	202	0.53	<0.05	2.38	1.265	0.30
VR13297B		1490	4.0	39.4	0.004	0.28	0.15	28.0	<1	1.1	175.5	0.55	0.05	2.11	1.260	0.31
VR13298B		1480	3.0	33.9	<0.002	0.13	0.16	26.4	<1	0.9	167.5	0.49	<0.05	1.81	1.205	0.19
VR13299B		1420	3.2	24.8	0.002	0.10	0.18	32.0	<1	0.8	233	0.39	<0.05	1.77	1.095	0.15
VR13300B		40	1.6	3.2	<0.002	<0.01	0.18	0.6	<1	0.2	3.8	0.09	<0.05	1.72	0.024	0.02
VR13301B		1560	3.8	28.6	<0.002	0.11	0.19	28.8	1	0.9	175.0	0.50	<0.05	2.13	1.285	0.16
VR13302B		1380	6.1	37.3	<0.002	0.18	0.28	23.9	<1	1.0	227	0.69	<0.05	2.30	1.055	0.31
VR13303B		520	8.1	80.9	0.003	1.15	0.47	12.4	1	6.7	234	0.69	0.54	3.94	0.303	0.75
VR13304B		380	4.5	57.5	<0.002	0.24	0.11	8.6	1	2.1	182.5	0.49	<0.05	3.64	0.168	0.28
VR13305B		400	4.5	53.6	0.003	0.60	0.09	9.0	1	2.6	130.5	0.52	0.19	3.36	0.204	0.25
VR13306B		170	4.2	52.5	0.002	0.58	0.06	6.7	1	2.7	102.0	0.55	0.14	3.63	0.152	0.28
VR13307B		40	2.9	3.5	<0.002	0.36	0.06	0.9	1	0.8	12.3	0.06	0.28	0.50	0.021	0.03
VR13308B		600	13.3	53.7	0.004	5.30	0.10	11.6	6	11.0	112.5	0.20	2.98	2.05	0.204	0.35
VR13309B		380	22.2	23.5	0.007	3.98	0.06	8.1	3	6.4	166.5	0.31	1.15	1.99	0.161	0.13
VR13310B		280	39.8	33.1	0.002	0.95	0.86	20.0	2	0.5	90.7	0.12	0.44	1.83	0.226	0.25
VR13311B		50	30.3	3.7	<0.002	0.71	0.08	0.7	<1	0.7	19.1	0.07	0.78	0.39	0.015	0.04
VR13312B		290	19.8	73.2	0.002	1.89	0.13	7.2	2	7.4	88.2	1.10	0.67	4.67	0.176	0.47
VR13313B		360	9.0	91.6	0.002	1.44	0.18	9.9	1	7.1	98.4	0.83	0.34	4.48	0.234	0.71
VR13314B		270	6.9	74.5	<0.002	0.58	0.11	9.1	1	3.8	147.0	0.74	0.14	3.91	0.212	0.54
VR13315B		230	9.2	70.5	0.002	0.42	0.17	8.0	1	3.4	142.0	0.67	0.13	4.01	0.190	0.64
VR13316B		290	7.0	75.2	0.002	0.59	0.07	9.5	1	3.5	119.0	0.60	0.17	3.88	0.193	0.60
VR13317B		150	5.3	56.2	0.002	0.54	0.08	6.6	<1	4.6	75.1	0.89	0.17	4.19	0.130	0.35
VR13318B		1830	36.9	62.4	0.002	1.00	0.11	32.4	1	1.5	127.0	0.54	0.18	0.89	1.235	0.53
VR13319B		1170	3.6	13.8	<0.002	0.17	0.06	18.1	1	0.6	126.5	0.48	<0.05	0.52	0.882	0.10
VR13320B		1140	3.8	13.5	0.002	0.19	0.09	17.2	<1	0.6	121.0	0.50	<0.05	0.49	0.866	0.07
VR13321B		1870	5.1	28.4	<0.002	0.51	0.19	33.6	<1	1.4	168.0	0.63	<0.05	4.00	1.380	0.23
VR13322B		700	11.9	50.0	0.004	2.31	2.92	13.6	4	3.5	64.2	0.56	0.24	2.58	0.486	0.47
VR13323B		1090	11.9	36.3	0.006	1.88	0.29	20.7	3	4.1	126.0	0.42	0.13	1.72	0.805	0.36
VR13324B		1910	16.6	33.1	0.002	0.57	0.33	34.1	1	1.4	199.5	0.59	<0.05	1.14	1.460	0.24
VR13325B		1370	10.8	37.1	0.002	1.19	0.19	24.5	1	3.3	130.5	0.44	0.13	1.03	1.055	0.27
VR13326B		450	8.8	42.8	0.004	2.63	0.10	9.4	4	3.5	48.7	0.62	0.16	2.84	0.301	0.35
VR13327B		510	7.5	43.2	0.003	3.12	<0.05	10.7	6	3.4	94.7	0.48	0.27	2.17	0.366	0.36
VR13328B		270	4.2	50.8	<0.002	0.77	<0.05	4.8	1	2.4	85.1	0.88	0.08	3.73	0.151	0.28
VR13329B		490	5.9	40.3	0.003	2.12	<0.05	9.5	3	2.8	137.5	0.67	0.15	2.93	0.352	0.28
VR13330B		20	0.5	2.7	<0.002	<0.01	0.09	0.4	1	0.2	2.6	0.09	<0.05	1.36	0.017	0.02
VR13331B		450	8.5	53.6	0.003	2.23	<0.05	9.6	3	3.2	102.0	0.61	0.63	3.16	0.308	0.37
VR13332B		880	9.1	58.7	0.003	1.63	0.05	16.6	4	4.4	76.1	0.51	0.16	1.82	0.667	0.52

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

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To: **SANATANA RESOURCES INC.**
908-925 WEST GEORGIA STREET
VANCOUVER BC V6C 3L2

Finalized Date: 20-SEP-2019
Account: SANATANA

Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19228861

Sample Description	Method Analyte Units LOD	ME-MS61 U ppm 0.1	ME-MS61 V ppm 1	ME-MS61 W ppm 0.1	ME-MS61 Y ppm 0.1	ME-MS61 Zn ppm 2	ME-MS61 Zr ppm 0.5
VR13293B		0.4	205	1.3	25.7	129	68.7
VR13294B		0.3	250	0.5	24.6	113	55.6
VR13295B		0.4	278	0.7	26.7	119	73.3
VR13296B		0.6	299	0.4	28.5	113	118.5
VR13297B		0.6	297	0.4	25.4	136	121.0
VR13298B		0.5	281	0.4	23.0	131	104.0
VR13299B		0.5	262	0.4	27.8	164	85.6
VR13300B		0.4	4	0.1	2.1	3	30.0
VR13301B		0.6	304	0.5	23.5	119	108.0
VR13302B		0.8	242	1.6	21.7	124	145.0
VR13303B		1.4	80	6.2	23.8	197	236
VR13304B		1.3	44	2.4	15.0	64	151.0
VR13305B		0.9	47	5.0	15.0	135	175.5
VR13306B		1.1	22	4.0	16.9	66	263
VR13307B		0.1	12	1.0	2.2	4	33.4
VR13308B		0.5	117	5.7	10.0	144	117.0
VR13309B		0.6	65	7.5	10.9	70	117.5
VR13310B		0.5	126	14.9	10.1	83	52.6
VR13311B		0.1	10	1.0	3.1	4	22.6
VR13312B		1.1	98	4.3	20.7	181	267
VR13313B		1.1	36	2.6	21.2	1140	306
VR13314B		0.9	17	2.3	20.9	536	322
VR13315B		0.9	7	2.6	20.2	187	334
VR13316B		0.9	27	4.4	17.4	212	261
VR13317B		1.2	28	3.2	56.8	52	219
VR13318B		0.2	257	6.1	28.2	296	126.5
VR13319B		0.1	154	2.1	22.0	124	59.2
VR13320B		0.1	150	2.5	20.7	122	54.3
VR13321B		1.0	289	1.8	35.8	106	120.5
VR13322B		1.3	88	4.6	26.7	1780	170.5
VR13323B		0.5	172	0.9	23.3	1900	104.5
VR13324B		0.3	299	1.5	33.2	303	113.0
VR13325B		0.3	205	5.7	25.6	248	76.5
VR13326B		0.7	59	1.8	27.7	929	140.0
VR13327B		0.5	80	1.8	20.7	1040	115.5
VR13328B		0.9	16	3.2	30.4	94	243
VR13329B		0.7	67	10.2	26.8	814	197.5
VR13330B		0.4	3	0.1	2.0	4	28.0
VR13331B		0.8	66	5.3	25.3	1560	187.5
VR13332B		0.5	153	0.8	26.6	1540	107.0

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To: **SANATANA RESOURCES INC.**
908-925 WEST GEORGIA STREET
VANCOUVER BC V6C 3L2

Finalized Date: 20-SEP-2019
Account: SANATANA

Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19228861

Sample Description	Method	WEI-21	Au-ICP21	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	Analyte	Recvd Wt.	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu
	Units	kg	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.02	0.001	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2
VR13333B		2.36	0.002	0.06	6.83	<0.2	310	0.75	0.09	7.16	0.10	31.3	40.4	24	2.29	64.8
VR13334B		1.85	0.001	0.06	6.87	0.2	390	0.87	0.11	7.76	0.14	33.6	42.4	24	1.96	67.7
VR13335B		1.97	0.005	0.05	6.87	0.6	520	1.07	0.08	5.53	0.19	44.1	31.3	109	1.21	41.4
VR13336B		1.80	0.012	0.12	6.43	0.6	450	1.11	0.23	5.89	0.43	47.4	23.8	189	1.27	53.8
VR13337B		1.91	0.005	0.06	7.02	<0.2	490	1.05	0.05	4.90	0.10	47.3	27.6	254	1.51	29.9
VR13338B		2.14	0.002	0.05	7.58	0.8	380	0.72	0.14	8.24	0.08	24.9	41.9	88	1.54	67.1
VR13339B		2.04	0.001	0.04	7.98	0.7	250	0.62	0.11	8.38	0.09	20.4	52.6	96	1.10	83.8
VR13340B		0.07	0.532	0.15	7.02	5.6	150	0.31	0.05	7.07	0.12	9.47	46.8	160	0.14	156.0
VR13341B		1.99	0.002	0.04	7.97	0.7	220	0.52	0.10	8.72	0.08	21.0	51.8	97	1.84	98.2
VR13342B		2.09	0.002	0.04	8.07	0.8	190	0.54	0.11	8.24	0.10	21.5	51.4	93	1.15	102.0
VR13343B		1.98	0.001	0.04	7.89	0.5	200	0.53	0.09	6.81	0.12	20.8	50.7	94	1.13	69.4
VR13344B		2.06	0.002	0.05	7.84	0.5	320	0.66	0.19	8.33	0.18	28.2	52.5	89	2.28	86.6
VR13345B		2.06	0.001	0.04	7.68	3.0	150	0.84	0.29	7.13	0.18	20.8	41.0	97	1.55	56.4
VR13346B		1.93	0.004	0.04	7.79	0.3	170	0.50	0.29	6.74	0.17	22.0	47.7	96	1.48	79.0
VR13347B		1.93	0.001	0.07	5.43	0.5	80	0.44	0.10	8.13	0.19	19.50	39.8	62	0.60	74.9
VR13348B		1.73	0.001	0.04	8.16	0.2	200	0.69	0.15	6.63	0.16	26.3	43.6	94	1.79	69.0
VR13349B		2.36	0.001	0.06	8.20	0.2	180	0.43	0.09	7.39	0.14	22.6	50.7	112	1.13	133.5
VR13350B		<0.02	0.001	0.07	8.28	0.7	180	0.49	0.09	7.12	0.14	22.7	49.9	106	1.12	129.5

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Finalized Date: 20-SEP-2019
Account: SANATANA

Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19228861

Sample Description	Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	Hg-MS42	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	Analyte	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni
	Units	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm
	LOD	0.01	0.05	0.05	0.1	0.005	0.005	0.01	0.5	0.2	0.01	5	0.05	0.01	0.1	0.2
VR13333B		9.14	19.40	0.12	1.9	<0.005	0.103	2.29	12.6	21.4	2.38	1520	0.42	0.47	8.2	76.3
VR13334B		8.38	19.60	0.14	2.1	<0.005	0.095	2.37	12.9	19.4	2.05	1590	0.47	0.99	8.3	75.9
VR13335B		5.94	18.90	0.12	3.2	0.008	0.076	1.47	19.3	25.3	2.44	1010	0.66	2.05	6.9	75.0
VR13336B		4.30	16.60	0.09	3.2	<0.005	0.106	1.09	22.7	21.9	2.73	873	1.07	2.97	3.6	78.2
VR13337B		4.02	17.15	0.10	2.7	<0.005	0.030	1.16	22.6	25.8	3.46	707	<0.05	3.05	1.9	121.5
VR13338B		8.06	18.70	0.07	1.5	<0.005	0.062	1.49	10.6	16.2	1.97	1660	0.49	0.88	5.0	94.8
VR13339B		9.13	21.0	0.09	0.7	<0.005	0.069	1.44	7.1	17.0	2.06	1850	0.83	0.33	5.8	116.0
VR13340B		8.11	15.15	0.05	1.6	0.041	0.066	0.19	3.6	10.4	4.31	1380	0.62	2.18	3.6	97.0
VR13341B		9.46	20.2	0.09	0.9	<0.005	0.069	1.45	7.4	16.3	2.08	1860	0.76	0.24	5.4	117.0
VR13342B		9.86	20.2	0.10	1.7	<0.005	0.077	1.04	7.6	13.5	2.13	1830	1.06	0.33	5.9	102.5
VR13343B		10.30	21.0	0.09	1.0	<0.005	0.076	1.05	7.2	12.9	2.81	1890	0.74	0.65	6.2	115.5
VR13344B		9.37	20.8	0.10	1.4	<0.005	0.071	1.28	11.7	24.7	2.25	1750	0.53	0.72	6.2	117.0
VR13345B		12.05	19.20	0.09	1.0	<0.005	0.069	0.90	7.3	19.5	2.32	2350	0.53	0.59	5.2	115.0
VR13346B		12.55	21.1	0.11	0.7	<0.005	0.074	0.99	7.6	14.1	2.67	2330	0.49	0.64	5.7	124.0
VR13347B		10.20	14.45	0.08	1.2	<0.005	0.067	0.50	6.9	11.5	2.58	1900	0.57	0.54	5.2	70.1
VR13348B		10.15	21.4	0.10	1.0	<0.005	0.076	1.24	10.2	15.5	2.22	2120	0.55	1.01	6.3	108.0
VR13349B		9.42	21.4	0.10	0.7	<0.005	0.081	0.92	8.0	14.1	2.18	1960	0.35	0.92	5.7	131.5
VR13350B		9.44	21.2	0.10	0.9	<0.005	0.089	0.96	8.0	14.0	2.22	1920	0.38	0.99	5.7	132.0

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

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To: **SANATANA RESOURCES INC.**
908-925 WEST GEORGIA STREET
VANCOUVER BC V6C 3L2

Finalized Date: 20-SEP-2019
Account: SANATANA

Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19228861

Sample Description	Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	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	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02
VR13333B		1500	8.1	66.8	0.002	0.47	<0.05	27.1	1	2.7	118.5	0.47	0.05	1.04	1.160	0.62
VR13334B		1510	7.5	61.9	<0.002	0.49	<0.05	27.0	2	2.3	163.0	0.49	<0.05	0.98	1.165	0.47
VR13335B		1080	6.5	36.2	<0.002	0.22	<0.05	20.1	1	1.9	246	0.41	<0.05	2.20	0.741	0.22
VR13336B		780	5.8	31.0	<0.002	0.69	<0.05	13.8	1	1.3	460	0.26	0.06	3.19	0.321	0.17
VR13337B		780	4.3	36.0	<0.002	0.11	<0.05	15.0	1	0.6	358	0.13	<0.05	3.64	0.246	0.20
VR13338B		1230	5.4	43.5	<0.002	0.27	<0.05	25.0	1	0.6	263	0.29	<0.05	0.97	1.190	0.22
VR13339B		1330	3.3	28.2	0.002	0.24	0.05	29.0	1	0.7	126.0	0.31	<0.05	0.40	1.475	0.20
VR13340B		430	1.7	3.4	0.002	0.15	0.35	42.5	1	0.7	118.5	0.23	0.05	0.36	0.663	0.02
VR13341B		1310	1.8	42.1	0.002	0.29	<0.05	29.4	1	0.8	92.5	0.30	<0.05	0.41	1.430	0.19
VR13342B		1390	1.7	30.7	0.003	0.28	<0.05	29.0	1	0.8	103.0	0.34	<0.05	0.51	1.465	0.14
VR13343B		1440	2.0	21.2	<0.002	0.21	<0.05	30.5	1	0.8	137.5	0.36	<0.05	0.47	1.490	0.15
VR13344B		1360	2.8	45.4	0.002	0.31	0.08	29.8	1	0.8	147.5	0.32	<0.05	0.55	1.400	0.21
VR13345B		1330	2.9	30.7	<0.002	0.37	0.06	27.2	2	0.9	115.0	0.30	0.08	0.39	1.380	0.20
VR13346B		1370	2.9	31.2	<0.002	0.35	<0.05	30.3	1	0.9	137.0	0.31	0.07	0.41	1.420	0.19
VR13347B		1060	1.2	14.3	0.002	0.29	<0.05	19.6	1	1.0	106.0	0.31	0.06	0.71	0.952	0.09
VR13348B		1580	2.3	41.1	<0.002	0.16	<0.05	32.3	1	0.8	129.5	0.33	0.05	0.68	1.535	0.22
VR13349B		1410	2.9	29.4	0.002	0.50	0.05	30.3	2	0.9	137.5	0.31	0.10	0.47	1.455	0.18
VR13350B		1420	2.9	30.0	<0.002	0.49	0.05	30.5	1	0.8	136.0	0.32	0.09	0.46	1.470	0.22

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

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To: **SANATANA RESOURCES INC.**
908-925 WEST GEORGIA STREET
VANCOUVER BC V6C 3L2

Finalized Date: 20-SEP-2019
Account: SANATANA

Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19228861

Sample Description	Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	Analyte	U	V	W	Y	Zn	Zr
	Units	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.1	1	0.1	0.1	2	0.5
VR13333B		0.3	268	1.1	32.4	203	89.8
VR13334B		0.3	272	1.4	32.3	202	73.5
VR13335B		0.6	178	2.2	26.1	227	130.5
VR13336B		0.9	101	1.7	13.6	196	127.0
VR13337B		1.1	101	1.0	9.0	91	109.5
VR13338B		0.3	299	1.3	19.8	119	67.4
VR13339B		0.1	367	1.1	20.5	130	30.0
VR13340B		0.1	301	1.1	20.5	89	48.3
VR13341B		0.1	357	2.0	20.1	141	43.1
VR13342B		0.2	363	1.3	21.4	144	55.5
VR13343B		0.1	359	1.2	21.8	157	39.8
VR13344B		0.2	333	2.8	22.5	156	61.6
VR13345B		0.4	347	1.3	18.9	288	43.2
VR13346B		0.1	354	1.1	20.6	325	30.0
VR13347B		0.2	207	0.8	18.3	164	65.3
VR13348B		0.2	373	0.6	23.0	251	40.9
VR13349B		0.1	364	0.9	22.1	180	27.7
VR13350B		0.1	362	0.8	22.1	187	29.8

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Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19228861

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

REE's may not be totally soluble in this method.

Applies to Method: ME-MS61

LABORATORY ADDRESSES

Processed at ALS Thunder Bay located at 645 Norah Crescent, Thunder Bay, ON, Canada

Applies to Method:				
CRU-31	CRU-QC	LOG-22	LOG-22d	
LOG-24	PUL-31	PUL-31d	PUL-QC	
SPL-21	SPL-21d	WEI-21		

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:		
Au-ICP21	Hg-MS42	ME-MS61

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To: **SANATANA RESOURCES INC.**
908-925 WEST GEORGIA STREET
VANCOUVER BC V6C 3L2

Finalized Date: 6-OCT-2019
This copy reported on 8-OCT-2019
Account: SANATANA

CERTIFICATE TB19232946

Project: EMPRESS

This report is for 41 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 17-SEP-2019.

The following have access to data associated with this certificate:

BUDDY DOYLE	TROY GILL	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
LOG-24	Pulp Login - Rcd w/o Barcode
LOG-22d	Sample login - Rcd w/o BarCode dup
SPL-21d	Split sample - duplicate
PUL-31d	Pulverize Split - duplicate
CRU-31	Fine crushing - 70% <2mm
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize split to 85% <75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP61	33 element four acid ICP-AES	ICP-AES
Hg-MS42	Trace Hg by ICPMS	ICP-MS
Au-ICP21	Au 30g FA ICP-AES Finish	ICP-AES

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, General Manager, North Vancouver

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Finalized Date: 6-OCT-2019
Account: SANATANA

Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19232946

Sample Description	Method	WEI-21	Au-ICP21	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
	Analyte	Recvd Wt.	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga
	Units	kg	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm
	LOD	0.02	0.001	0.5	0.01	5	10	0.5	2	0.01	0.5	1	1	1	0.01	10
VR13351B		2.75	<0.001	<0.5	7.55	<5	70	<0.5	<2	9.35	1.4	50	196	53	9.96	20
VR13352B		1.26	0.001	<0.5	6.83	5	260	1.1	<2	3.91	1.9	21	58	105	3.86	20
VR13353B		1.55	<0.001	<0.5	6.92	<5	470	1.7	2	1.10	<0.5	4	7	46	2.12	20
VR13354B		1.67	<0.001	<0.5	6.64	41	320	1.8	2	1.56	0.6	5	9	34	2.27	20
VR13355B		1.74	<0.001	<0.5	6.47	5	440	1.4	2	1.63	<0.5	5	7	27	2.56	20
VR13356B		1.67	<0.001	<0.5	6.87	<5	520	1.3	<2	1.57	1.0	9	10	42	3.30	20
VR13357B		1.56	<0.001	<0.5	6.84	<5	400	1.3	2	1.74	0.8	6	9	30	2.77	20
VR13358B		1.91	0.001	<0.5	6.44	11	580	1.6	3	2.56	1.5	15	54	83	4.04	20
VR13359B		1.84	0.003	<0.5	6.37	20	350	1.7	2	2.47	0.7	5	9	36	1.89	20
VR13360B		0.17	<0.001	<0.5	0.25	<5	10	<0.5	2	0.04	<0.5	<1	5	1	0.49	<10
VR13361B		1.85	0.001	<0.5	6.83	17	300	1.4	<2	3.32	1.4	7	11	58	3.02	20
VR13362B		1.83	0.007	<0.5	6.74	<5	490	1.4	<2	2.35	0.6	7	11	30	3.00	20
VR13363B		1.79	<0.001	<0.5	6.57	<5	460	1.3	3	1.33	<0.5	6	7	23	2.58	20
VR13364B		1.79	0.002	<0.5	6.80	<5	360	1.4	<2	1.42	0.6	5	9	26	2.57	20
VR13365B		1.86	<0.001	<0.5	6.96	7	410	1.2	<2	1.58	0.5	8	11	40	3.16	20
VR13366B		1.77	0.002	<0.5	7.03	<5	420	1.4	<2	1.95	0.8	9	8	45	3.27	20
VR13367B		1.75	0.008	<0.5	6.70	<5	390	1.3	<2	2.46	1.0	8	8	47	3.02	20
VR13368B		1.84	0.001	<0.5	6.39	5	330	1.3	3	2.39	<0.5	3	5	18	2.74	20
VR13369B		1.81	0.005	<0.5	6.70	8	270	1.4	2	2.00	<0.5	5	8	37	3.77	20
VR13370B		0.07	8.72	2.0	5.20	73	240	0.5	4	3.96	0.9	32	459	132	4.37	10
VR13371B		1.82	0.003	<0.5	7.07	13	340	1.6	<2	1.58	0.8	7	10	69	3.72	20
VR13372B		1.14	0.003	<0.5	6.48	19	330	1.3	<2	2.38	0.7	12	10	96	3.54	20
VR13373B		2.31	0.023	<0.5	6.93	43	320	2.2	2	4.64	0.8	32	123	72	7.82	20
VR13374B		1.63	<0.001	<0.5	3.71	5	250	3.4	<2	11.85	1.2	59	233	105	9.14	20
VR13375B		1.80	0.037	<0.5	6.21	16	340	1.4	<2	3.90	0.7	19	49	185	6.28	20
VR13376B		1.81	0.004	<0.5	7.66	6	420	1.0	<2	3.91	0.8	40	132	108	7.49	20
VR13377B		2.15	0.007	<0.5	7.34	<5	330	0.8	<2	3.98	0.8	37	56	81	9.01	20
VR13378B		1.82	<0.001	<0.5	7.00	<5	250	0.6	2	5.19	1.3	30	12	57	8.88	20
VR13379B		1.19	<0.001	<0.5	6.79	<5	370	0.6	<2	5.69	1.2	31	12	111	8.16	20
VR13380B		<0.02	<0.001	<0.5	6.74	<5	370	0.7	<2	5.64	0.8	32	12	99	8.14	20
VR13381B		2.16	0.007	<0.5	5.90	<5	350	0.8	<2	4.37	0.9	21	17	44	5.48	20
VR13382B		2.21	0.092	<0.5	6.70	<5	160	1.3	2	6.41	2.1	38	126	141	9.59	20
VR13383B		1.23	1.035	<0.5	6.58	<5	190	1.4	<2	6.12	1.3	39	98	74	8.95	20
VR13384B		2.63	0.501	0.8	5.41	9	390	1.7	<2	1.66	5.7	40	19	209	3.87	20
VR13385B		1.71	0.333	<0.5	4.71	<5	380	1.3	<2	1.77	0.6	10	14	99	2.47	20
VR13386B		1.36	0.033	<0.5	3.84	<5	200	0.8	<2	2.84	<0.5	5	19	36	1.82	10
VR13387B		0.68	0.036	<0.5	2.19	<5	110	0.5	3	1.01	<0.5	4	15	29	0.86	10
VR13388B		1.29	0.005	<0.5	3.63	<5	220	0.9	<2	1.87	<0.5	6	13	30	1.48	10
VR13389B		1.87	0.003	<0.5	4.52	5	390	1.2	2	2.65	0.7	7	10	46	2.69	10
VR13390B		0.18	0.004	<0.5	0.24	<5	20	<0.5	4	0.02	<0.5	<1	7	1	0.56	<10

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To: **SANATANA RESOURCES INC.**
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Finalized Date: 6-OCT-2019
Account: SANATANA

Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19232946

Sample Description	Method	Hg-MS42	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
	Analyte	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th
	Units	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
	LOD	0.005	0.01	10	0.01	5	1	0.01	1	10	2	0.01	5	1	1	20
VR13351B		<0.005	0.34	10	3.20	1710	1	1.55	222	1490	6	0.17	<5	27	313	<20
VR13352B		0.009	1.52	20	0.87	646	2	2.31	51	600	10	0.85	<5	10	218	<20
VR13353B		<0.005	2.40	30	0.43	281	2	2.81	4	130	10	0.39	<5	3	127	<20
VR13354B		0.008	2.32	20	0.58	353	2	2.19	5	240	6	0.32	<5	4	123	<20
VR13355B		<0.005	2.52	20	0.69	391	3	1.59	6	290	5	0.53	<5	5	123	<20
VR13356B		<0.005	2.70	20	0.89	538	1	1.80	12	460	9	0.75	<5	7	140	<20
VR13357B		<0.005	2.83	20	0.77	458	2	1.35	8	250	8	0.72	<5	5	126	<20
VR13358B		0.011	2.75	20	1.20	612	2	0.89	30	560	11	1.25	<5	7	232	<20
VR13359B		0.021	2.65	20	0.39	369	2	0.61	8	210	10	0.39	<5	4	83	<20
VR13360B		<0.005	0.06	<10	0.02	56	<1	0.05	1	20	<2	0.01	<5	<1	3	<20
VR13361B		0.019	3.16	20	0.62	484	2	0.14	10	280	16	0.79	<5	5	92	<20
VR13362B		<0.005	3.00	20	0.76	455	2	0.78	10	290	8	0.38	<5	5	97	<20
VR13363B		<0.005	3.04	20	0.71	392	1	1.50	6	430	10	0.39	<5	5	212	<20
VR13364B		<0.005	2.97	30	0.57	390	2	1.85	5	210	7	0.55	<5	4	239	<20
VR13365B		<0.005	3.35	20	0.65	389	2	1.29	11	320	7	0.94	<5	5	98	<20
VR13366B		<0.005	3.35	20	0.74	458	2	0.80	10	290	21	1.25	<5	5	86	<20
VR13367B		<0.005	3.37	20	0.74	523	3	0.10	10	370	18	0.60	<5	6	49	<20
VR13368B		<0.005	2.91	20	0.69	508	2	0.25	4	140	9	0.23	<5	3	60	<20
VR13369B		<0.005	2.80	20	0.89	471	3	0.12	8	410	7	0.52	<5	6	45	<20
VR13370B		0.143	0.77	10	4.43	696	6	1.14	204	290	43	0.94	<5	19	92	<20
VR13371B		0.012	3.17	20	0.85	462	2	0.08	10	440	18	0.67	<5	7	45	<20
VR13372B		0.010	2.67	20	0.90	439	2	0.09	14	420	14	1.04	<5	6	92	<20
VR13373B		0.005	1.76	30	3.31	920	3	0.58	122	1840	7	0.27	<5	18	203	<20
VR13374B		0.012	0.59	100	4.99	1580	1	0.13	243	5900	8	0.26	<5	22	797	<20
VR13375B		<0.005	2.37	20	1.65	691	1	0.81	52	770	12	2.06	<5	12	133	<20
VR13376B		<0.005	2.35	10	2.11	1015	2	0.79	98	1390	5	0.37	<5	25	123	<20
VR13377B		<0.005	1.50	10	1.64	1400	1	1.23	69	1450	9	0.27	<5	26	219	<20
VR13378B		<0.005	1.11	10	2.10	1315	2	1.69	39	1460	4	0.18	<5	25	162	<20
VR13379B		<0.005	1.35	10	2.03	1165	1	2.09	37	1440	4	0.39	<5	24	155	<20
VR13380B		<0.005	1.33	10	2.04	1155	1	2.06	38	1450	7	0.38	<5	24	154	<20
VR13381B		<0.005	1.71	20	1.36	1155	<1	1.16	30	940	4	0.21	<5	17	101	<20
VR13382B		<0.005	1.35	10	2.58	1120	1	1.66	84	1880	8	0.39	<5	31	238	<20
VR13383B		<0.005	1.37	10	2.42	1235	3	2.10	76	1930	6	1.12	<5	30	257	<20
VR13384B		0.016	2.47	20	0.48	447	13	0.67	41	400	22	2.93	<5	9	78	<20
VR13385B		<0.005	1.84	20	0.44	393	45	1.09	12	270	4	0.93	<5	6	101	<20
VR13386B		<0.005	0.82	20	0.48	534	13	1.71	6	120	4	0.46	<5	4	95	<20
VR13387B		<0.005	0.53	20	0.09	159	16	0.99	5	70	4	0.30	<5	2	34	<20
VR13388B		<0.005	0.81	20	0.22	305	4	1.53	7	130	3	0.26	<5	4	69	<20
VR13389B		<0.005	1.82	30	0.36	450	2	0.27	9	220	3	0.18	<5	6	40	<20
VR13390B		<0.005	0.06	<10	0.02	67	<1	0.05	2	20	<2	<0.01	<5	<1	2	<20

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

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218
www.alsglobal.com/geochemistry

To: **SANATANA RESOURCES INC.**
908-925 WEST GEORGIA STREET
VANCOUVER BC V6C 3L2

Finalized Date: 6-OCT-2019
Account: SANATANA

Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19232946

Sample Description	Method Analyte Units LOD	ME-ICP61 Ti % 0.01	ME-ICP61 Tl ppm 10	ME-ICP61 U ppm 10	ME-ICP61 V ppm 1	ME-ICP61 W ppm 10	ME-ICP61 Zn ppm 2
VR13351B		1.12	<10	<10	249	<10	155
VR13352B		0.37	<10	<10	78	<10	758
VR13353B		0.09	<10	<10	6	<10	271
VR13354B		0.13	<10	<10	14	<10	271
VR13355B		0.16	<10	<10	17	<10	236
VR13356B		0.24	<10	<10	35	<10	403
VR13357B		0.16	<10	<10	20	<10	275
VR13358B		0.23	<10	<10	44	<10	516
VR13359B		0.13	10	<10	17	<10	356
VR13360B		0.02	<10	<10	3	<10	5
VR13361B		0.19	<10	<10	26	<10	729
VR13362B		0.20	<10	<10	27	<10	216
VR13363B		0.18	<10	<10	19	<10	235
VR13364B		0.13	<10	<10	13	<10	232
VR13365B		0.19	<10	<10	30	<10	277
VR13366B		0.16	<10	<10	22	<10	347
VR13367B		0.20	<10	<10	23	<10	400
VR13368B		0.10	<10	<10	7	<10	129
VR13369B		0.21	<10	<10	21	<10	219
VR13370B		0.22	<10	<10	126	20	81
VR13371B		0.25	<10	<10	26	<10	308
VR13372B		0.22	<10	<10	26	<10	407
VR13373B		0.87	<10	<10	165	<10	145
VR13374B		1.69	<10	<10	239	<10	105
VR13375B		0.44	<10	<10	90	10	117
VR13376B		0.94	10	<10	215	<10	146
VR13377B		1.11	<10	<10	264	<10	131
VR13378B		1.13	<10	<10	278	10	160
VR13379B		1.13	<10	<10	255	10	217
VR13380B		1.14	<10	<10	257	<10	215
VR13381B		0.72	<10	<10	165	<10	119
VR13382B		1.18	<10	<10	261	<10	250
VR13383B		1.16	<10	<10	285	10	170
VR13384B		0.19	<10	<10	91	<10	972
VR13385B		0.19	<10	<10	59	10	124
VR13386B		0.09	<10	<10	14	10	74
VR13387B		0.05	<10	<10	20	<10	24
VR13388B		0.09	<10	<10	19	<10	61
VR13389B		0.15	<10	<10	25	<10	200
VR13390B		0.02	<10	<10	3	<10	4

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

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To: **SANATANA RESOURCES INC.**
908-925 WEST GEORGIA STREET
VANCOUVER BC V6C 3L2

Finalized Date: 6-OCT-2019
Account: SANATANA

Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19232946

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	Au-ICP21 Au ppm 0.001	ME-ICP61 Ag ppm 0.5	ME-ICP61 Al % 0.01	ME-ICP61 As ppm 5	ME-ICP61 Ba ppm 10	ME-ICP61 Be ppm 0.5	ME-ICP61 Bi ppm 2	ME-ICP61 Ca % 0.01	ME-ICP61 Cd ppm 0.5	ME-ICP61 Co ppm 1	ME-ICP61 Cr ppm 1	ME-ICP61 Cu ppm 1	ME-ICP61 Fe % 0.01	ME-ICP61 Ga ppm 10
VR13391B		1.58	0.001	<0.5	8.24	<5	210	1.0	<2	4.57	1.0	39	176	91	12.10	20

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

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www.alsglobal.com/geochemistry

To: **SANATANA RESOURCES INC.**
908-925 WEST GEORGIA STREET
VANCOUVER BC V6C 3L2

Finalized Date: 6-OCT-2019
Account: SANATANA

Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19232946

Sample Description	Method	Hg-MS42	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
	Analyte	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th
	Units	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
	LOD	0.005	0.01	10	0.01	5	1	0.01	1	10	2	0.01	5	1	1	20
VR13391B		<0.005	1.67	10	1.80	1520	<1	1.16	82	2330	7	0.28	<5	37	159	<20

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

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VANCOUVER BC V6C 3L2

Finalized Date: 6-OCT-2019
Account: SANATANA

Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19232946

Sample Description	Method	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
	Analyte	Ti	Tl	U	V	W	Zn
	Units	%	ppm	ppm	ppm	ppm	ppm
	LOD	0.01	10	10	1	10	2
VR13391B		1.44	<10	<10	308	<10	129

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

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To: **SANATANA RESOURCES INC.**
908-925 WEST GEORGIA STREET
VANCOUVER BC V6C 3L2

Finalized Date: 6-OCT-2019
Account: SANATANA

Project: EMPRESS

CERTIFICATE OF ANALYSIS TB19232946

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Thunder Bay located at 645 Norah Crescent, Thunder Bay, ON, Canada

Applies to Method:				
	CRU-31	CRU-QC	LOG-22	LOG-22d
	LOG-24	PUL-31	PUL-31d	PUL-QC
	SPL-21	SPL-21d	WEI-21	

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:			
	Au-ICP21	Hg-MS42	ME-ICP61

Sanatana Resources Inc

Survey: **EMP19-01**

Claims title:
Township:
Range:
Lot:

Section:
Level:
Work place: Thunder Bay

Contractor: Richard's Exploration
Author: K. Kivi

Start date: 2019-09-07
End date: 2019-09-09

Description date: 2023-06-11

Collar

Dip: -60.00°
Length: 100.50

UTM

East 502106.00
North 5412374.00
Elevation 365.00

Assay - Averages

Zone	From	To	Core l...	Au (ppm)

Number of samples: 52
Number of QAQC samples: 6
Total sampled length: 47.30

Description:

Core stored in Thunder Bay

Core size: BTW | Cemented: No | Stored: Yes

Description			Assay - Sample				
			From	To	Sample ...	Length	Au (ppm)
0.00	1.80	ZOB **Overburden** Overburden					
1.80	13.80	V3B **Basalt 40°** Fine grained, grey green, weakly foliated basalt with weak calcite blebs and fractures, upper contact sharp at 40 dtca, schistocity at 30 dtca, about 10 dtca change in strike					
5.00	8.20	M8 **Schist 40°** Biotite altered shear zone	5.00	6.00	VR13293B	1.00	0.0010
			6.00	7.00	VR13294B	1.00	0.0020
			7.00	8.00	VR13295B	1.00	0.0040
5.00	8.20	VS;20%;;;;Po00.5 Py00.5; **Stringer Zone 20% Pyrrhotite 0.5% Pyrite 0.5%** 5-20% narrow white quartz carbonate veinlets, 2-10 mm thick, sparsely scattered every 2 - 10 cm, rare pyrite and pyrrhotite in patches	8.00	9.00	VR13296B	1.00	0.0030
			9.00	10.00	VR13297B	1.00	0.0020
			10.00	11.00	VR13298B	1.00	0.0010
			11.00	12.00	VR13299B	1.00	
			12.00	13.00	VR13301B	1.00	0.0010
			12.00	12.00	VR13300B ...	0.00	
			13.00	13.80	VR13302B	0.80	0.0160
13.80	15.20	I3O **Lamprophyre 55°** Grey green to black, fine to medium grained U/M lamprophyre dike, upper and lower contacts at 55 dtca, contacts sharp, locally strongly magnetic					
15.20	26.40	M8 **Schist** Biotite quartz sericite schist, banded, grey-beige crown, siliceous with quartz veining locally, Schistocity 45-70 dtca	15.20	16.00	VR13303B	0.80	0.2720
			16.00	17.00	VR13304B	1.00	0.0300
			17.00	18.00	VR13305B	1.00	0.0260
18.00	22.00	M8 **Schist** Host rock sto veining zone is strongly mineralized with 20% medium grained pyrite (2-4 mm) and anealed pyrite in stringers, likely conductor IP response	18.00	18.80	VR13306B	0.80	0.0700
			18.80	19.10	VR13307B	0.30	0.1860
			19.10	20.00	VR13308B	0.90	2.3300
18.00	22.00	VCS;40 cm;Sr;VF;40°;Py04; **Crack Seal 40 cm Séricite Fractures 40° Pyrite 4%** 50% quartz veining that includes grey-white laminated crack and seal quartz shear veins, from 1-40 cm thick, oriented at 40 dtca with black chloritic seams, also white sygmoidal	20.00	20.60	VR13309B	0.60	1.3050
			20.60	20.90	VR13311B	0.30	1.6900
			20.60	20.60	VR13310B ...	0.00	8.7700
			20.90	22.00	VR13312B	1.10	1.3550

Description			Assay - Sample				
			From	To	Sample ...	Length	Au (ppm)
		quartz veins from 1 to 40 cm thick, randomly oriented with coarse pyrite locally 0-20%					
22.00	25.40	M8	22.00	23.00	VR13313B	1.00	0.0270
		Schist	23.00	24.00	VR13314B	1.00	0.0090
		Darker grey, more chlorite and biotite present, strongly silicified, lesser pyrite than above with 1% 0.5-1 mm pyrite seams subparallel to shearing along brittle fractures	24.00	25.00	VR13315B	1.00	0.0050
			25.00	26.00	VR13316B	1.00	0.0390
25.40	26.40	VSTK;10%;;;;Py01;	26.00	26.40	VR13317B	0.40	0.0650
		Stockwork 10% Pyrite 1%					
		10% grey quartz veining with 1% pyrite					
26.40	52.01	V3B					
		Basalt					
		Mafic lava flow, medium grained, massive to weakly foliated, grey-green, local patches of 0.5% fine disseminated magnetite					
26.70	27.00	M8	26.70	27.00	VR13318B	0.30	0.0170
		Schist 70°					
		Shear zone with 1% pyrite, weakly silicified					
27.90	28.20	VM;30 cm;Cl;;;;	27.90	28.20	VR13319B	0.30	0.0180
		Massive vein 30 cm Chlorite	28.20	28.20	VR13320B ...	0.00	0.0120
		Folded white quartz carbonate vein, sygmoidal, glassy, minor chlorite	34.90	35.60	VR13321B	0.70	0.0020
37.30	38.45	S6A	37.30	38.00	VR13322B	0.70	0.0100
		Siltstone	38.00	39.00	VR13323B	1.00	0.0070
		Interflow sediments, cherty folded beds with brown biotitic fine grained siltstone beds, undulating, 2-4 mm seams of pyrite					
38.45	41.07	V3B	39.00	40.00	VR13324B	1.00	0.0020
		Basalt	40.00	41.00	VR13325B	1.00	0.0190
		Amygdaloidal lava flow, 2-6 mm quartz-chlorite-pyrite filled (dark) amygdules	41.00	42.00	VR13326B	1.00	0.0170
41.07	46.37	S6A	42.00	43.00	VR13327B	1.00	0.0360
		Siltstone	43.00	44.00	VR13328B	1.00	0.2720
		Interflow sediments, thinly bedded grey cherty beds and brown biotitic siltstone with 5-20% 1 mm pyrite disseminated locally	44.00	45.00	VR13329B	1.00	0.8610
			45.00	46.00	VR13331B	1.00	0.1090
			45.00	45.00	VR13330B ...	0.00	
			46.00	46.80	VR13332B	0.80	0.0110
			46.80	48.00	VR13333B	1.20	0.0020

Description			Assay - Sample				
			From	To	Sample ...	Length	Au (ppm)
			48.00	49.00	VR13334B	1.00	0.0010
			49.00	50.00	VR13335B	1.00	0.0050
			50.00	51.00	VR13336B	1.00	0.0120
50.10	50.40	VM;30 cm;Cl;;;; **Massive vein 30 cm Chlorite** sygmoidal white quartz chlorite vein	51.00	52.00	VR13337B	1.00	0.0050
			52.00	53.00	VR13338B	1.00	0.0020
52.01	65.56	V3B **Basalt** PILLOW BASALT, Brownish green biotite altered, fine grained pillow basalts, moderately foliated, at 50-60 dtca, fine grained green, chloritic pillow selvages, 5% wispy quartz carbonate stringers	53.00	54.00	VR13339B	1.00	0.0010
			54.00	55.00	VR13341B	1.00	0.0020
			54.00	54.00	VR13340B ...	0.00	0.5320
			55.00	56.00	VR13342B	1.00	0.0020
			56.00	57.00	VR13343B	1.00	0.0010
			57.00	58.00	VR13344B	1.00	0.0020
			58.00	59.00	VR13345B	1.00	0.0010
			59.00	60.00	VR13346B	1.00	0.0040
			60.00	61.00	VR13347B	1.00	0.0010
60.50	61.00	VM;50 cm;Cl;;;Py01; **Massive vein 50 cm Chlorite Pyrite 1%** Folded grey-white sygmoidal quartz vein with biotite chlorite and pyrite seams	61.00	62.00	VR13348B	1.00	0.0010
			62.00	63.30	VR13349B	1.30	0.0010
			63.30	63.30	VR13350B ...	0.00	0.0010
65.56	66.50	S9B **BIF - Banded Iron Formation 50°** 20 cm grey bedded chert with magnetite rich bdes 25 mm thick, bedding 50 dtca, distinct 20 cm beds with intercalated green aphanitic basalt					
66.50	76.50	V3B **Basalt** Brownish green, biotite altered, fine grained pillow basalts with moderate to strong foliation at 30 dtca, pillow selvages brown, biotitic, irregular with 30% wispy quartz carbonate, stringers, locally amygdaloidal					
76.50	99.10	V3B **Basalt** MASSIVE LAVA FLOWS Grey green, massive locally magnetic, monotonous mafic lava flows, rare amygdules and flow banding, rare 1-2 cm white quartz-chlorite veins, folded or sygmoidal, with trace pyrite					

Description			Assay - Sample				
			From	To	Sample ...	Length	Au (ppm)
84.34	84.70	I3O **Lamprophyre 65°** Medium grained biotite lamprophyre, 30% white carbonate, contacts 65 dtca					
86.00	86.20	I3O **Lamprophyre 70°** same as above					
94.50	94.80	VM;1.5 cm;Sr;;30°;; **Massive vein 1.5 cm Séricite 30°** 1.5 cm quartz carbonate vein at 30 dtca, flow top, epidote					
99.10	100.50	V3B **Basalt** PILLOW BASALT, Fine grained green, massive basalt with 1-2 cm brown biotitic, pillow selvages that are randomly oriented.					

Assay - Sample

From	To	Sample number	Description	Au (ppm)	
5.00	6.00	VR13293B		0.0010	
6.00	7.00	VR13294B		0.0020	
7.00	8.00	VR13295B		0.0040	
8.00	9.00	VR13296B		0.0030	
9.00	10.00	VR13297B		0.0020	
10.00	11.00	VR13298B		0.0010	
11.00	12.00	VR13299B			
12.00	13.00	VR13301B		0.0010	
13.00	13.80	VR13302B		0.0160	
15.20	16.00	VR13303B		0.2720	
16.00	17.00	VR13304B		0.0300	
17.00	18.00	VR13305B		0.0260	
18.00	18.80	VR13306B		0.0700	
18.80	19.10	VR13307B		0.1860	
19.10	20.00	VR13308B		2.3300	
20.00	20.60	VR13309B		1.3050	
20.60	20.90	VR13311B		1.6900	
20.90	22.00	VR13312B		1.3550	
22.00	23.00	VR13313B		0.0270	
23.00	24.00	VR13314B		0.0090	
24.00	25.00	VR13315B		0.0050	
25.00	26.00	VR13316B		0.0390	
26.00	26.40	VR13317B		0.0650	
26.70	27.00	VR13318B		0.0170	
27.90	28.20	VR13319B		0.0180	
34.90	35.60	VR13321B		0.0020	
37.30	38.00	VR13322B		0.0100	
38.00	39.00	VR13323B		0.0070	
39.00	40.00	VR13324B		0.0020	
40.00	41.00	VR13325B		0.0190	
41.00	42.00	VR13326B		0.0170	
42.00	43.00	VR13327B		0.0360	
43.00	44.00	VR13328B		0.2720	
44.00	45.00	VR13329B		0.8610	
45.00	46.00	VR13331B		0.1090	

Assay - Sample

From	To	Sample number	Description	Au (ppm)	
46.00	46.80	VR13332B		0.0110	
46.80	48.00	VR13333B		0.0020	
48.00	49.00	VR13334B		0.0010	
49.00	50.00	VR13335B		0.0050	
50.00	51.00	VR13336B		0.0120	
51.00	52.00	VR13337B		0.0050	
52.00	53.00	VR13338B		0.0020	
53.00	54.00	VR13339B		0.0010	
54.00	55.00	VR13341B		0.0020	
55.00	56.00	VR13342B		0.0020	
56.00	57.00	VR13343B		0.0010	
57.00	58.00	VR13344B		0.0020	
58.00	59.00	VR13345B		0.0010	
59.00	60.00	VR13346B		0.0040	
60.00	61.00	VR13347B		0.0010	
61.00	62.00	VR13348B		0.0010	
62.00	63.30	VR13349B		0.0010	

Sanatana Resources Inc

Survey: **EMP19-02**

Claims title:
Township:
Range:
Lot:

Section:
Level:
Work place: Thunder Bay

Contractor: Richard's Exploration
Author: K. Kivi

Start date: 2019-09-10
End date: 2019-09-12

Description date: 2023-06-12

Collar

Dip: -60.00°
Length: 111.00

UTM

East 502100.00
North 5412350.00
Elevation 363.00

Assay - Averages

Zone	From	To	Core l...	Au (ppm)

Number of samples: 37
Number of QAQC samples: 4
Total sampled length: 36.00

Description:

Core stored in Thunder Bay.

Core size: BTW | Cemented: No | Stored: Yes

Description			Assay - Sample				
			From	To	Sample ...	Length	Au (ppm)
0.00	2.00	ZOB **Overburden** OVB					
2.00	9.40	V3B **Basalt** Fine grained grey green pillow basalts, pale green, chloritic pillow selvages, 20-40 cm apart, rare wispy white quartz-calcite veins along selvages	8.00	9.40	VR13351B	1.40	
9.40	16.30	S6A **Siltstone 70°** Thinly bedded and laminated juvenile bedded brown biotitic siltstone within beige sericitic seams and narrow augen-like grey quartz veins along beds	9.40	10.00	VR13352B	0.60	0.0010
			10.00	11.00	VR13353B	1.00	
			11.00	12.00	VR13354B	1.00	
			12.00	13.00	VR13355B	1.00	
			13.00	14.00	VR13356B	1.00	
			14.00	15.00	VR13357B	1.00	
15.00	16.00	VS;10%;Sr;;;; **Stringer Zone 10% Séricite** increase in narrow grey quartz veins to 10% quartz veining from 15-16 m,	15.00	16.00	VR13358B	1.00	0.0010
			16.00	17.00	VR13359B	1.00	0.0030
16.30	16.90	I1F **Aplite 70°** Pale greenish-yellow, aphanitic siliceous, felsic dike, contacts @ 70 dtca, locally hematitic, minor brittle fault at lower contact					
16.90	29.25	S6A **Siltstone 60°** Thinly bedded siltstone, weak to moderate sericite alteration, stringer sericite coincides with 5-8 mm grey quartz stringers that parallel bedding, at 60-65 dtca, some cherty beds at 27.7 m	17.00	18.00	VR13361B	1.00	0.0010
			17.00	17.00	VR13360B ...	0.00	
			18.00	19.00	VR13362B	1.00	0.0070
			19.00	20.00	VR13363B	1.00	
			20.00	21.00	VR13364B	1.00	0.0020
			21.00	22.00	VR13365B	1.00	
			22.00	23.00	VR13366B	1.00	0.0020
			23.00	24.00	VR13367B	1.00	0.0080
			24.00	25.00	VR13368B	1.00	0.0010
			25.00	26.00	VR13369B	1.00	0.0050
			26.00	27.00	VR13371B	1.00	0.0030
			26.00	26.00	VR13370B ...	0.00	8.7200

Description			Assay - Sample				
			From	To	Sample ...	Length	Au (ppm)
			27.00	27.70	VR13372B	0.70	0.0030
			27.70	29.00	VR13373B	1.30	0.0230
			29.00	30.10	VR13374B	1.10	
29.25	30.05	I3O **Lamprophyre 55°** Brownish grey, medium grained, biotite lamprophyre dike with contacts at 55 and 68 dtca.					
30.05	32.60	S6A **Siltstone** Thinly bedded, green-brown, biotitic, juvenile siltstone, locally sericitic, near post deformational, brittle fault	30.10	31.00	VR13375B	0.90	0.0370
			31.00	32.00	VR13376B	1.00	0.0040
			32.00	33.00	VR13377B	1.00	0.0070
32.60	37.45	V3B **Basalt** MAFIC LAVA FLOW, dark green, fine grained, biotitic mafic lava flow, 5% narrow wispy calcite stringers, flow banding	33.00	34.00	VR13378B	1.00	
			34.00	34.70	VR13379B	0.70	
			34.70	35.80	VR13381B	1.10	0.0070
			34.70	34.70	VR13380B ...	0.00	
			35.80	37.00	VR13382B	1.20	0.0920
			37.00	37.60	VR13383B	0.60	1.0350
37.45	43.20	M8 **Schist 55°** SILTSTONE AND CHERT, Thinly bedded 55-70 dtca, sericitic and silicified, siltstone and grey chert with 2-3mm seams of pyrite and 20% pyrite locally, 20% quartz veining, with pyrite and pyrrhotite mineralization.	37.60	39.00	VR13384B	1.40	0.5010
38.00	41.40	M8 **Schist 60°** EMPRESS ZONE strongly silicied siltstones with significant quartz veining including 25 cm crack and seal vein with VG at 38.6 m	39.00	40.00	VR13385B	1.00	0.3330
			40.00	40.80	VR13386B	0.80	0.0330
			40.80	41.20	VR13387B	0.40	0.0360
38.00	41.40	VCS;25 cm;;VF;;Au Cp00.5 Py05; **Crack Seal 25 cm Fractures Gold VG Chalcopyrite 0.5% Pyrite 5%** Significant quartz veining including 25 cm grey laminated crack and seal quartz vein with coarse pyrite, minor chalcopyrite and VG	41.20	42.00	VR13388B	0.80	0.0050
			42.00	43.20	VR13389B	1.20	0.0030
43.20	46.40	V3B **Basalt** MAFIC LAVA FLOWS and BIF, Fine grained green moderately foliated mafic lava flows	43.20	44.00	VR13391B	0.80	0.0010
			43.20	43.20	VR13390B ...	0.00	0.0040
45.95	46.40	S9B					

Description			Assay - Sample				
			From	To	Sample ...	Length	Au (ppm)
		BIF - Banded Iron Formation 70°					
		DIRTY BIF, juvenile interflow thinkly bedded siltstone, bedding 70 dtca, strongly magnetic magnetite bed					
46.40	50.60	V3B					
		Basalt					
		PILLOW BASALT, Fine grained dark green to brown, biotitic pillow basalt, selvages are randomly oriented, brown fine chloritic and biotitic, -0.5-2 cm thick					
50.60	70.00	V3B					
		Basalt					
		Dark green, aphanitic, almost black, mafic lava flows with vague biotite defined flow banding					
52.80	52.90	S10					
		Chert 55°					
		0.5 cm chert beds grey bedding 55 dtca, no magnetite					
56.00	56.04	VM;4 cm;;;;;					
		Massive vein 4 cm					
		4 cm sygmoidal quartz vein					
65.60	66.50	I2J					
		Diorite					
		Medium grained, biotitic synvolcanic dike					
67.25	67.70	S6A					
		Siltstone 60°					
		Interflow sediments, juvenile thinly bedded siltstone, bedding 60 dtca					
69.30	70.00	I2J					
		Diorite 62°					
		same as 65.6-66.6, contacts and 75 and 62 dtca					
70.00	72.00	V3B					
		Basalt					
		PILLOW BASALT, Dark green aphanitic, basalt, moderately foliated and strained, with green brown chlorite-biotite selvages, at 65 dtca					
72.00	80.40	I2J					
		Diorite 50°					
		Medium grained, weakly foliated, at 50 dtca, 1% 1-2 mm chlorite-biotite clots					
80.40	82.75	V3B					
		Basalt					
		PILLOW BASALT - BIF, Dark green aphanitic basalt, locally pillowed with 30 cm grey					

Description			Assay - Sample				
			From	To	Sample ...	Length	Au (ppm)
		magnetite Banded iron formation BIF					
81.10	81.40	S9B **BIF - Banded Iron Formation 65°** Dirty banded iron formation BIF bedding at 65 dtca, 10 cm zone with 10% dissemintated and stringer pyrrhotite					
82.75	84.80	I2J **Diorite** DIORITE, Medium grained weakly foliated 50 dtca, 1% 1-2 mm chlorite-biotite clots, upper contact discordant to pillow basalts and inteflow sediments suggests that diorite is a post-volcanic intrusive rock					
84.80	91.15	V3B **Basalt 50°** PILLOW BASALT Dark green, aphanitic, pillow basalts, with minor interflow juvenile siltstone, green-brown chloritic pillow selvages randomly oriented but generally 40-50 dtca					
86.30	86.70	I2J **Diorite 20°** DIORITE DIKE 20 dtca contacts are irregular					
91.15	98.26	I2J **Diorite 25°** DIORITE Medium grained, weakly foliated, @ 45 dtca, 2% 1-2 mm chlorite-biotite clots, upper contact discordant at 25 dtca, lower contact 80 dtca					
97.60	98.26	I2J **Diorite 75°** same as 91.15					
98.26	111.00	V3B **Basalt** MAFIC LAVA FLOWS Dark grey green, aphanitic, massive mafic lava flows with 3-5% wispy white calcite-quartz stringers along fractures, rare flow tops, pillows, amygdules					
101.70	102.90	I3O **Lamprophyre 25°** LAMPROPHYRE DIKE Medium grained, biotite lamprophyre dike, irregular contacts at 25 dtca and 65 dtca					

Assay - Sample

From	To	Sample number	Description	Au (ppm)	
8.00	9.40	VR13351B			
9.40	10.00	VR13352B		0.0010	
10.00	11.00	VR13353B			
11.00	12.00	VR13354B			
12.00	13.00	VR13355B			
13.00	14.00	VR13356B			
14.00	15.00	VR13357B			
15.00	16.00	VR13358B		0.0010	
16.00	17.00	VR13359B		0.0030	
17.00	18.00	VR13361B		0.0010	
18.00	19.00	VR13362B		0.0070	
19.00	20.00	VR13363B			
20.00	21.00	VR13364B		0.0020	
21.00	22.00	VR13365B			
22.00	23.00	VR13366B		0.0020	
23.00	24.00	VR13367B		0.0080	
24.00	25.00	VR13368B		0.0010	
25.00	26.00	VR13369B		0.0050	
26.00	27.00	VR13371B		0.0030	
27.00	27.70	VR13372B		0.0030	
27.70	29.00	VR13373B		0.0230	
29.00	30.10	VR13374B			
30.10	31.00	VR13375B		0.0370	
31.00	32.00	VR13376B		0.0040	
32.00	33.00	VR13377B		0.0070	
33.00	34.00	VR13378B			
34.00	34.70	VR13379B			
34.70	35.80	VR13381B		0.0070	
35.80	37.00	VR13382B		0.0920	
37.00	37.60	VR13383B		1.0350	
37.60	39.00	VR13384B		0.5010	
39.00	40.00	VR13385B		0.3330	
40.00	40.80	VR13386B		0.0330	
40.80	41.20	VR13387B		0.0360	
41.20	42.00	VR13388B		0.0050	

Assay - Sample

From	To	Sample number	Description	Au (ppm)	
42.00	43.20	VR13389B		0.0030	
43.20	44.00	VR13391B		0.0010	

Sanatana Resources Inc

Survey: **EMP19-03**

Claims title:
Township:
Range:
Lot:

Section:
Level:
Work place: Thunder Bay

Contractor: Richard's Exploration
Author: K. Kivi

Start date: 2019-09-15
End date: 2019-09-18

Description date: 2023-06-14

Collar

Dip: -60.00°
Length: 71.40

UTM

East 502108.00
North 5412326.00
Elevation 363.00

Assay - Averages

Zone	From	To	Core l...	Au (ppm)

Number of samples: 0
Number of QAQC samples: 0
Total sampled length: 0.00

Description:

Core stored in Thunder Bay.

Core size: BTW | Cemented: No | Stored: Yes

Description			Assay - Sample				
			From	To	Sample ...	Length	Au (ppm)
0.00	0.50	ZOB **Overburden** OVB					
0.50	13.50	V3B **Basalt** PILLOW BASALT Grey-green, moderately foliated pillow basalts, selvages every 10-60 cm					
13.50	18.00	I2J **Diorite 55°** INTERMEDIATE INTRUSIVE Dark grey, massive, aphanitic, intermediate intrusive, upper stratigraphy assimilated and occurs as rafts or bost to minor dikes, upper contact hard to pin down, lower contact sharp at 55 dtca					
18.00	22.75	S6A **Siltstone 55°** THINLY BEDDED SILTSTONES Grey to light beige, sericite altered, thinly bedded siltstone, bedding 55-65 dtca					
18.00	20.00	I2J **Diorite** 30% aphanitic diorite, altered, silicified					
22.75	29.40	V2J **Andesite** INTERMEDIATE LAVA FLOW Pale to medium grey, blotchy, aphanitic intermediate composition lava flow, flow banded, irregular contacts, rare white quartz carbonate stringers, rare pyrite					
29.40	32.30	S6A **Siltstone 55°** THINLY BEDDED SILTSTONE Grey to beige, thinly bedded siltstone, Bedding at 55 dtca, moderately sericitic					
32.30	33.60	V2J **Andesite** INTERMEDIATE LAVA FLOW Grey aphanitic, moderately foliated at 55 dtca, moderately sericitic					
33.60	50.83	S6A **Siltstone 60°** THINLY BEDDED SILTSTONE (EMPRESS) grey to beige, thinly bedded siltstones, bedding at 60 dtca, locally silicified, 5-20% grey-white wispy quartz stringers, local sulphides, (trace					

Description			Assay - Sample				
			From	To	Sample ...	Length	Au (ppm)
		to 1% pyrite and pyrrhotite					
33.60	36.60	VS;5%;;VF;60°;Py01 Po01; **Stringer Zone 5% Fractures 60° Pyrite 1% Pyrrhotite 1%** 5% narrow 0.5-1 cm thick grey-white quartz stringers and rods, subparallel to foliation and bedding, Black graphitic seams					
38.50	39.15	VS;5%;Hm;VF;70°;; **Stringer Zone 5% Hématite Fractures 70°** 10 cm red hematitic zone, silicified with 5% grey-white quartz stringers at 70 dtca, parallel to bedding and schistocity					
39.15	42.00	S6A; BED **Siltstone 60°; Bedding** Bedded siltstone (20cm) that grades into fragmental unit that is fine epiclastic debris flow, strongly foliated at 60 dtca					
42.00	45.00	VS;1%;;VF;50°;; **Stringer Zone 1% Fractures 50°** Moderately sericitic, thinly bedded siltsotned with 1% grey-shite 0.5 cm quartz stringers, subparallel to bedding adn foliation at 50 dtca					
45.00	46.00	VS;30%;Sr;VF;60°;Po00.5 Py00.5; **Stringer Zone 30% Séricite Fractures 60° Pyrrhotite 0.5% Pyrite 0.5%** 30% grey-white quartz carbonate stringers with trace pyrite and pyrrhotite, fine grained, in sericitic fractures and quartz, black graphititc bedding at 60 dtca with minor pyritic seams					
46.00	49.00	M8 **Schist** Pale grey to buff sericite mylonite after thinly bedded siltstones					
46.00	49.00	VS;2%;;VF;;Py00.5 Po00.5; **Stringer Zone 2% Fractures Pyrite 0.5% Pyrrhotite 0.5%** 1-2% narrow wispy grey white quartz stringers, rare pyrite and pyrrhotite					
49.00	50.83	I3O **Lamprophyre 70°** Pale grey to chloritic mylonite after thinly bedded siltstones intruded by four narrow lamprophyre dikes of 15 mm, 2 cm, 16 cm and 26 cm					
50.83	51.55	M8 **Schist 60°** FAULT CONTACT, Dark green chlorite schist with 20% quartz carbonate veining, minor fault					

Description			Assay - Sample				
			From	To	Sample ...	Length	Au (ppm)
		gouge and 20% core loss					
50.83	51.55	VB;6 cm;;T;60°;; **Vein Breccia/ Fragments 6 cm Tension 60°** 20% quartz carbonate breccia vein					
51.55	58.65	V3B **Basalt 60°** MAFIC LAVA FLOWS Dark green, chloritic mafic lava flows with interflow juvenile sediments that are tightly folded. Schistocity locally strong at 55-70 dtca, locally magnetic with garnets and 5-10% disseminated pyrite and pyrrhotite					
51.55	52.10	I3O **Lamprophyre 60°** Five lamprophyre dikes as above					
52.10	53.10	M8 **Schist** Chlorite quartz schist, 1-2 mm garnets					
52.10	53.10	VS;5%;Cl Gr;VF;;Mt01 Py02 Po00.5; **Stringer Zone 5% Chlorite Grenat Fractures Magnetite 1% Pyrite 2% Pyrrhotite 0.5%** 5% grey white quartz stringers, pyrite in seams, minor pyrrhotite, 1 % disseminated magnetite, 1-2 mm garnets					
54.00	58.65	M8 **Schist** Schistose, chloritic, 5% disseminated calcite in patchy seams					
55.50	57.00	VS;20%;;VF;60°;; **Stringer Zone 20% Fractures 60°** 20% grey white quartz stringers 40-70 dtca					
58.17	58.44	VGLA;28 cm;Sr;E;;; **Glassy 28 cm Séricite Extension** 28 cm grey quartz vein at 60 dtca, glassy sericitic					
58.65	62.00	V3B **Basalt 45°** Moderately foliated 65 dtcs, 5% strained flattened amygdules 2-8 mm filled with calcite					
62.00	71.40	V3B **Basalt** Dark grey, aphanitic, rare 1 mm calcite filled joints, weak epidote alteration					

Assay - Sample

From	To	Sample number	Description	Au (ppm)	

Sanatana Resources Inc

Survey: **EMP19-04**

Claims title:
Township:
Range:
Lot:

Section:
Level:
Work place: Thunder Bay

Contractor: Richard's Exploration
Author: K. Kivi

Start date: 2019-09-20
End date: 2019-09-23

Description date: 2023-07-06

Collar

Dip: -60.00°
Length: 120.00

UTM

East 502121.00
North 5412304.00
Elevation 363.00

Assay - Averages

Zone	From	To	Core l...	Au (ppm)

Number of samples: 0
Number of QAQC samples: 0
Total sampled length: 0.00

Description:

Core stored in Thunder Bay.

Core size: BTW | Cemented: No | Stored: Yes

Description			Assay - Sample				
			From	To	Sample ...	Length	Au (ppm)
0.00	1.00	ZOB **Overburden** OVB					
1.00	49.50	V3B **Basalt 50°** PILLOW BASALTS - Dark grey-green, aphanitic pillow basalts with periodic chlorite-epidote altered selvages @50 dtca and intercalated juvenile thinly bedded siltstones					
1.00	3.50	S6A **Siltstone 50°** Thinly bedded siltstones, bedding @ 50 dtca.					
49.50	51.40	V2J **Andesite 40°** MAFIC LAVA FLOWS; Grey to greenish brown, basaltic lava flows and minor intercalated interflow sediments, moderately foliated @ 35 dtca					
51.04	53.02	I2J **Diorite** Grey, fine grained diorite with 30% 1 mm chlorite biotite clots					
51.40	53.30	I2J **Diorite 35°** DIORITE DIKES Two intermediate composition diorite dikes, contacts at 30 and 15 dtca, subparallel to foliation					
53.30	61.97	V2J **Andesite** Grey-brown fine grained locally strongly foliated to sheared altered mafic lava flows, locally carbonate altered					
53.97	54.15	I2J **Diorite 40°** Diorite dike, contacts 43 dtca					
61.97	65.60	S6A **Siltstone 40°** Thinly bedded to laminated pale grey-brown siltstone, locally dark graphitic beds @ 40 dtca					
65.44	65.60	I2J **Diorite** Diorite Dike - grey medium grained 30% 1 mm biotite chlorite clots					
65.60	80.60	M8					

Description			Assay - Sample				
			From	To	Sample ...	Length	Au (ppm)
		Schist 50°					
		EMPRESS ZONE - Sericite-biotite quartz schist, schistocity 50 dtca, locally zones ot quartz stringers, subparallel to schistocity, veins are grey-white, 5-8 mm wide.					
65.60	69.40	VS;3%;;;60°;;					
		Stringer Zone 3% 60°					
		3% narrow 5-8 mm grey quartz stringers @ 40-60 dtca					
67.03	67.10	I3O					
		Lamprophyre 55°					
		Lamprophyre, contacts 55 and 35 dtca.					
69.40	69.48	I3O					
		Lamprophyre 50°					
		Lamprophyre, contacts 50 dtca, carbonated					
69.48	73.30	VS;10%;;;60°;Py01;					
		Stringer Zone 10% 60° Pyrite 1%					
		5-10% narrow 5-8 mm grey quartz stringers @ 60 dtca, locally 1% pyrite in 1 mm seams parallel to schistocity.					
74.70	74.73	I3O					
		Lamprophyre 65°					
		3 cm lamprophyre					
74.95	74.99	I3O					
		Lamprophyre 65°					
		7 cm lamprophyre					
75.05	75.07	I3O					
		Lamprophyre 65°					
		2 cm lamprophyre					
75.14	75.38	I3O					
		Lamprophyre 65°					
		Lamprophyre					
75.43	75.48	I3O					
		Lamprophyre 65°					
		5 cm lamprophyre					
75.70	75.95	I3O					
		Lamprophyre 65°					
		lamprophyre					
76.11	76.19	I3O					

Description			Assay - Sample				
			From	To	Sample ...	Length	Au (ppm)
		Lamprophyre 65°					
		lamprophyre					
76.19	77.20	M8					
		Schist 65°					
		sericite schist after deformed siltstones					
77.20	78.70	VS;5%;Cl;;55°;;					
		Stringer Zone 5% Chlorite 55°					
		5% grey white quartz stringers@ 55 dtca in chlorite schist					
78.90	79.00	VCS;20 cm;;;55°;Py01;					
		Crack Seal 20 cm 55° Pyrite 1%					
		20 cm grey white quartz vein @ 55 dtca, coarse 9 mm pyrite bleb and 1% disseminated pyrite					
79.00	79.60	M8					
		Schist 50°					
		Green chlorite schist, foliation 50 dtca.					
79.60	80.60	S6A					
		Siltstone					
		Thinly bedded siltstones, moderately sericite altered					
80.60	97.33	V2J					
		Andesite					
		Dark green, aphanitic massive to weakly foliated monotonous mafic lava flows.					
85.60	86.67	VGLA;15 cm;;;45°;;					
		Glassy 15 cm 45°					
		15 cm wide white glassy quartz vein @ 45 dtca.					
97.33	102.14	S6A					
		Siltstone 65°					
		Grey-brown thinly bedded siltstones, bedding at 65 dtca, 3-5% narrow fracture fill quartz carbonate stringers					
99.60	100.50	VLZ;5%;;;45°;;					
		Veinlet Zone 5% 45°					
		5% white 4-6 mm quartz fracture fill stringers, @ 45 dtca, perpendicular to foliation					
102.14	103.84	M8					
		Schist 60°					
		BIOTITE CHLORITE SCHIST - Dark brown to black biotite chlorite schist with 3-5% pyrite and 2% pyrrhotite, 5% 5-8 mm white quartz carbonate stringers at 60 dtca.					

Description			Assay - Sample				
			From	To	Sample ...	Length	Au (ppm)
103.33	103.84	VCS;5 cm;Cl;;60°;Py02 Po02; **Crack Seal 5 cm Chlorite 60° Pyrite 2% Pyrrhotite 2%** 30% grey white laminated crack and seal quartz vein with black chlorite/biotite seams, 2% pyrite, 2% pyrrhotite					
103.84	112.00	V2J **Andesite 55°** MAFIC LAVA FLOWS - Dark grey-green fine grained massive to moderately foliated mafic lava flows.					
103.84	104.40	M8 **Schist 55°** Chlorite schist @ 55 dtca.					
112.00	120.00	V3B **Basalt 65°** PILLOW BASALT - Dark grey-green-brown pillow basalts with 1-2% white quartz carbonate stringers parallel to moderate foliation at 65 dtca, local pyrite blebs.					
112.00	113.55	S6A **Siltstone** Thinly bedded juvenile siltstones, chloritic and locally sericite altered, 3-5% quartz stringers					

Assay - Sample

From	To	Sample number	Description	Au (ppm)	

5412300.0000

5412400.0000

375

350

325

300

275

250

EMP19-04

EMP19-03

EMP19-02

EMP19-01

V3B
V2J
I2J
S6A
M8
I1F
I3O
S9B

Sanatana Resources Inc	
X-Section Area 6E	
Looking N062	
KIVI Geoscience Inc.	1:300

501,500
502,000
502,500
503,000
5,412,500
5,412,000
5,411,500
338531
219595
153587
322150
115456
266048
115520
273430
273429
273425
199402
EMP-19-01
EMP-19-02
EMP-19-03
EMP-19-04
0
400
meters

LEGEND
- Empress Full Claim Cells
- Empress Boundary Claim Cells
- Empress_Loop_Trail
- Highway 17
- Waterbody
- Watercourse
- UTM Gridline
- Contour Line
- EMP-19-01
- EMP-19-02
- EMP-19-03
- EMP-19-04

SANATANA RESOURCES INC.

Empress Drill Plan
Terrace Bay, Ontario

Date: 2023-07-10
Author: K. Kivi P.Geo.
Office: TBay
Drawing:
Scale: 1:4000
Projection: UTM Zone 16 (NAD 83)

0 300
meters