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Report on Diamond Drilling and Prospecting Work

on the

**Dome West Property
Tisdale Township
Porcupine Mining Division
District of Cochrane
Province of Ontario**

For

Pelangio Exploration Inc

Timmins Ontario

**J. Kevin Filo, P.Geo
Filo Exploration Services Limited
1080 Michelano Drive
Timmins Ontario
P4P 1H9**

July 9, 2019

TABLE OF CONTENTS

Summary.....	1
Introduction.....	2
Property Description and Location.....	2
Location	
Property Status	
Environmental Consideration and Permitting	
Accessibility, Climate, Local Resources, Infrastructure and Physiography.....	3
History.....	3
Geological Setting.....	4
Regional Geology	
Property Geology	
Survey Control.....	5
Drilling Program Discussion.....	6
Sampling Method and Approach.....	7
Sampling Preparation, Analyses and Security.....	8
Data Verification.....	8
Conclusions and Recommendations.....	8
References.....	10

Certificate

List of Figures

- Figure 1:** Location Map
- Figure 2:** Timmins Area Map
- Figure 3:** Claim Holdings Map
- Figure 4:** General Geology of the Abitibi Belt
- Figure 5:** Property Geology Map
- Figure 6:** Property Target Areas
- Figure 7:** Timmins Area Stratigraphy Map by D.R. Pyke 1982
- Figure 8:** Timmins Area Geological Map by D.R. Pyke 1982
- Figure 9:** Drill Hole Plan Map for Drill DW1901
- Figure 10:** Section for Drill Hole DW1901
- Figure 11:** Surface Sample Location Map

List of Tables

- Table 1:** Drill Hole Summary Table

Appendices

- Appendix 1:** Diamond Drill Log
- Appendix 2:** Copy of Assay Sheets
- Appendix 3:** Copy of Lithological Codes
- Appendix 4:** Copy of Oreas Standard 221 Specifications
- Appendix 5:** Copy of Prospecting Notes From Trench Samples
- Appendix 6:** Invoice Summary and Copy of Invoices

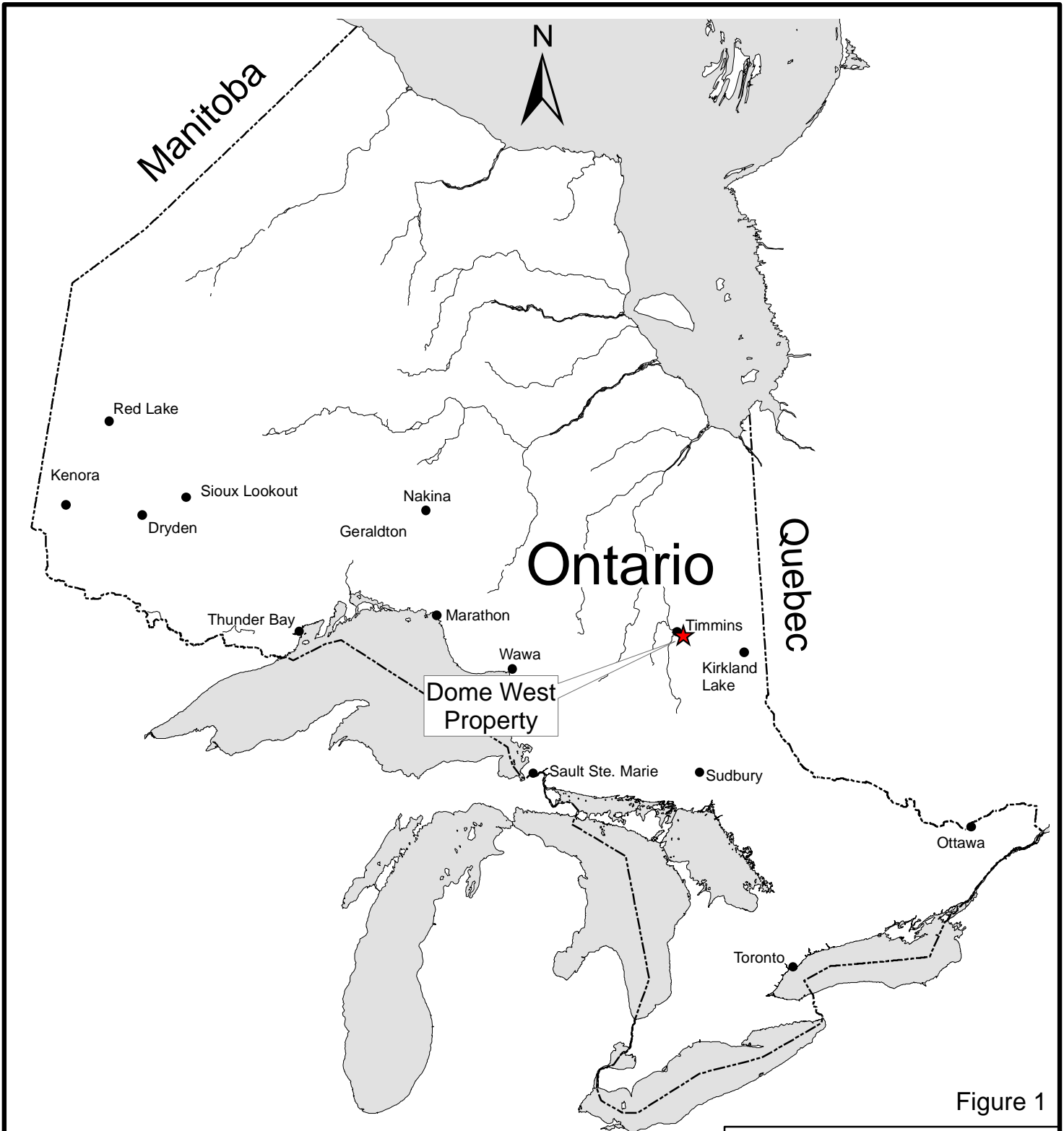



Figure 1

 Pelangio Exploration Inc.	
Dome West Property General Location Map	
Date: July, 2019	
Name: TS	File: ontloc_dw_2019

0 90 180
Kilometers

Summary:

A helicopter supported diamond drill program was initiated by Pelangio Exploration Inc on its Dome West Property Option in April of 2019. Field operations including mobilization and demobilization were conducted April 15/19 to April 24/19. Planning and supervision of the drill program was carried out under the direction of J. Kevin Filo, P. Geo. The drilling contract was completed by NPLH Drilling from Timmins Ontario and all helicopter support for the program was from Expedition Helicopters from Cochrane Ontario. All core logging and sampling for the program was completed by May 15/19. A limited prospecting program was also completed in from May 29 to May 31 2019 in order to evaluate a series of small pits in the northwestern portion of the property (V1 target area Fig.6)

The purpose of the program was to drill a single hole to evaluate the gold potential of porphyritic intrusive projected to extend across the property (P1 Target Area, Fig.6) from the adjoining Paymaster Mine Property. (Assessment File T-143) The drill hole also evaluated potential new vein systems associated with the prospective Tisdale Group volcanics also projected to extend through the property (Ferguson, S., 1968) from the adjoining Paymaster and Dome Mine properties. The single hole (DDH DW1901) was successfully completed to a depth of 543 meters to evaluate the aforementioned targets.

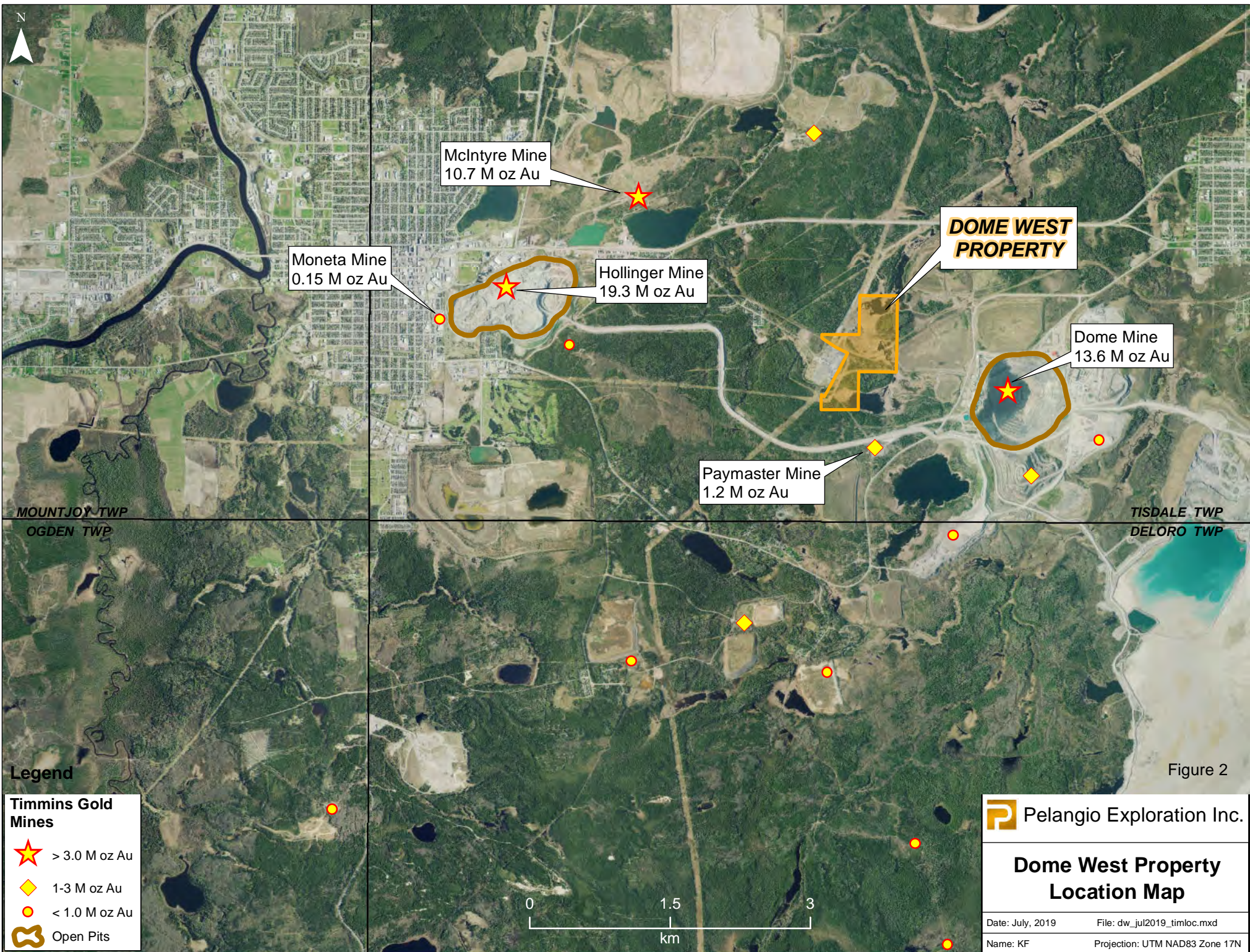
During the course of the program there was very limited environmental impact as only a few trees were cut in the immediate vicinity of the drill hole collar. Once the hole was completed a casing was left in the hole and the casing capped. An inspection of the site was made by the environmental personnel of Newmont Goldcorp the owners of the surface rights covering the current Dome West mineral claims. Newmont Goldcorp deemed the site to be in good order and no environmental rehabilitation was required. There is very minimal historical exploration on this property and thus very little environmental damage from historical work.

Geographic control points with respect to the property boundary and actual hole location, and surface rock samples were determined using a hand held Garmin GPS unit. The property map datum utilized was Nad 83 Zone 17.

No significant mineralization was intersected in the porphyritic intrusive unit but a series of veins were intersected in the drill hole. The best intercept in hole DW1901 returned 3.21 g/t gold over 1.25 meters including 4.754 g/t gold over 0.75 meters from 471 to 472.25 meters. This intercept was associated with some narrow quartz veins and stringers. No significant values were obtained from surface prospecting efforts.

Introduction:

The author was retained by Pelangio Exploration Inc. to prepare a report to cover a recent diamond drill program and a limited prospecting program completed from mid April 15 to May 31, 2019 on Pelangio's Dome West Property. Pelangio's Dome West Property is located in Timmins Ontario; more specifically the property is in south central Tisdale Township approximately 800 meters west of the Newmont Goldcorp's Dome Mine operations. (see Figs. 1 and 2).



McIntyre Mine
10.7 M oz Au

Moneta Mine
0.15 M oz Au

Hollinger Mine
19.3 M oz Au

**DOME WEST
PROPERTY**

Dome Mine
13.6 M oz Au

Paymaster Mine
1.2 M oz Au

MOUNTJOY TWP
OGDEN TWP

TISDALE TWP
DELORO TWP


Legend

Timmins Gold Mines

-  > 3.0 M oz Au
-  1-3 M oz Au
-  < 1.0 M oz Au
-  Open Pits



Figure 2

 Pelangio Exploration Inc.

**Dome West Property
Location Map**

Date: July, 2019 File: dw_jul2019_timloc.mxd
 Name: KF Projection: UTM NAD83 Zone 17N

Pelangio completed a single 543 meter drill hole (DW1901) on the property to test the gold potential of a porphyritic intrusive projected to extend on to the property from the adjoining Paymaster Mine property. The hole was extended well beyond the porphyry target in order to test for new vein systems within the Tisdale Group volcanics extending into the property from the Dome and Paymaster properties.

This report will provide details on the property geology and the results of the recent program along with recommendations for further work.

Property Description, and Location:

Location:

The property is located a few kilometers southeast of the Timmins city centre. (Fig. 1 & 2). More specifically the property is comprised of 10 claims cells as shown and numbered in Fig.3 in south central portion of Tisdale Township approximately 800 meters west of the Dome Mine.

Property Status:

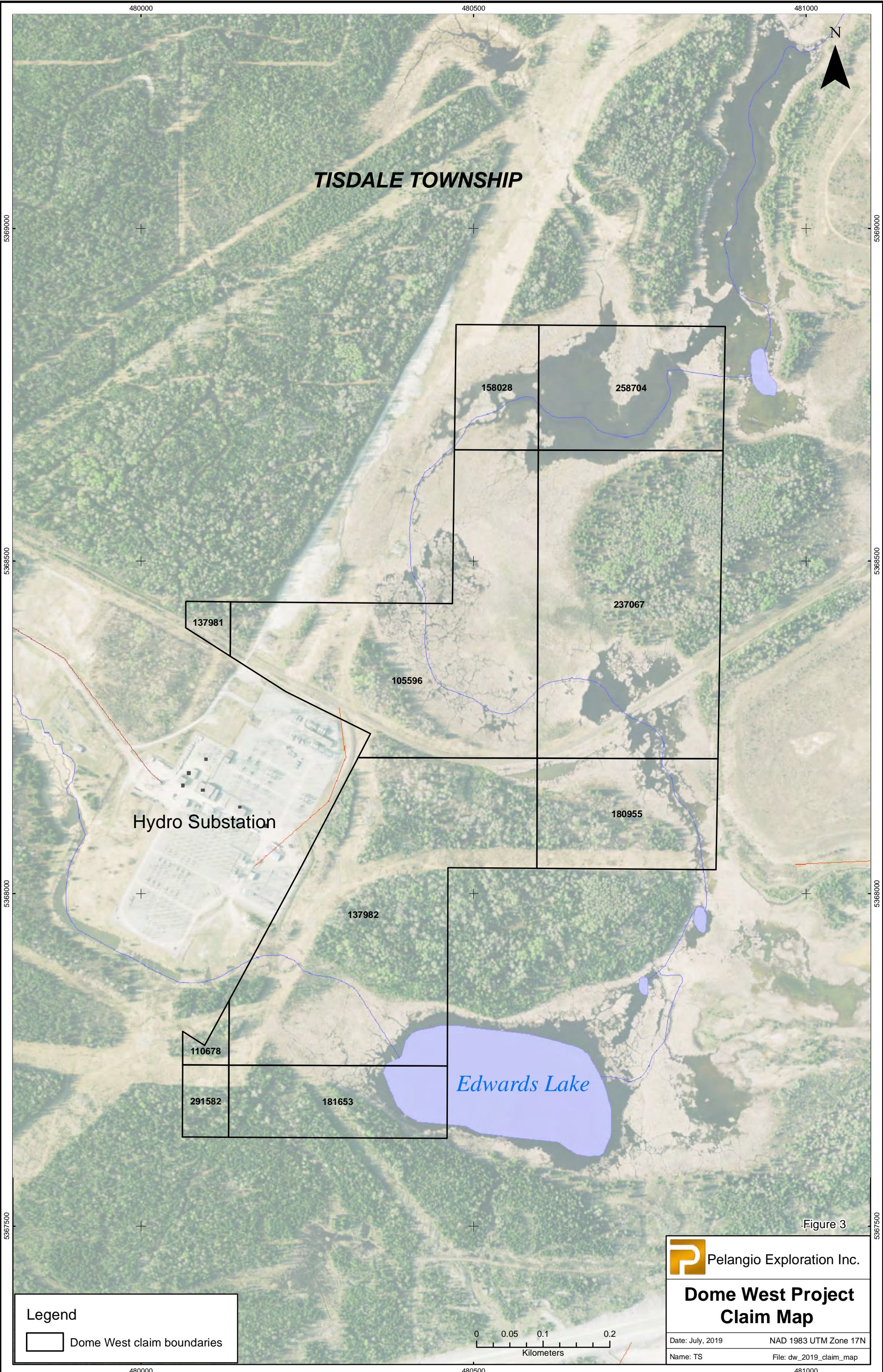
The property title documents show that title is currently held by Mr. Kevin Cool and 6398651 Canada Inc. At the time of writing arrangements were being made to transfer certain interests from Mr. Kevin Cool. Once this assignment is completed title documents will reflect that 1/3 of the property is controlled by Mr. Francois Desrosiers and the remaining 2/3 of the property controlled by 6398651 Canada Inc. At present, the property is under option to Pelangio Exploration Inc. Pelangio has the right to earn a 100% interest in the Dome West property by completing certain exploration expenditures, issuing shares in the corporation and making a series of cash payments. Should Pelangio complete the option there will be a retained royalty interest held proportionally by Francois Desrosiers and 6398651 Canada Inc. At the time of writing the Dome West property was in good standing until June of 2020.

Surface rights to the property are currently controlled by Newmont Goldcorp.

Environmental Considerations and Permitting:

The Dome West Property has been explored since the early days of the Porcupine. Work from the early days included some shallow shaft sinking, trenching and limited diamond drilling. There has been no production or milling of ore on the property and thus the environmental impact on the lands is fairly minimal. The author has visited the property on a number of occasions and observed reported trenches and a shaft. The shaft and trenches have collapsed to some extent and have been in filled to some extent as well. These historical workings represent a very limited environmental issue.

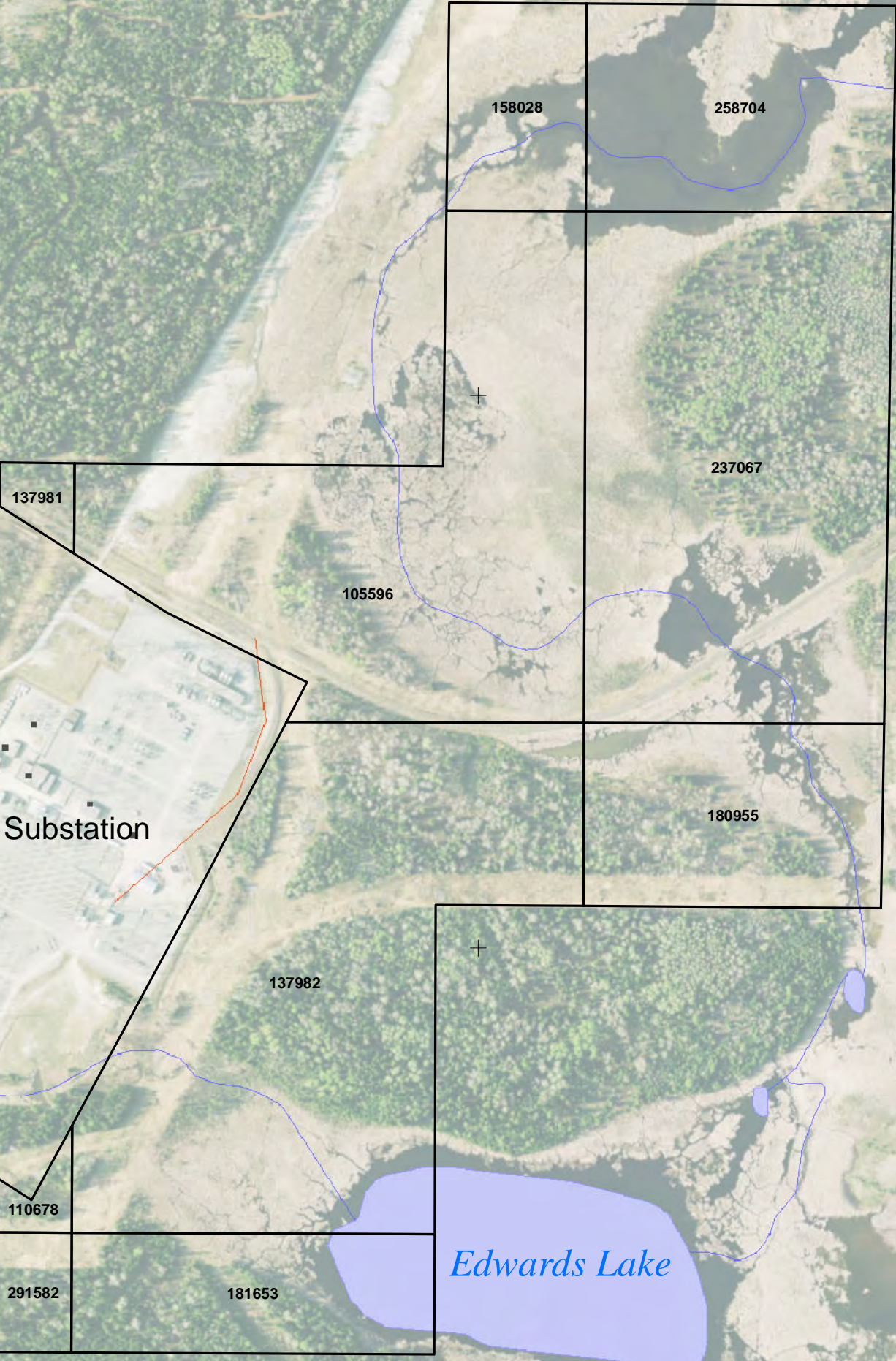
As stated previously, the surface rights for the property are controlled by Newmont Goldcorp. Pelangio negotiated an access agreement prior to initiating a drilling program on the property. Upon completion of the program a casing left in the hole was capped and all debris disposed of. There was minimal damage to the surface area as only a few




TISDALE TOWNSHIP

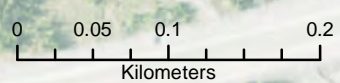
Hydro Substation


Edwards Lake



Legend

 Dome West claim boundaries



 Pelangio Exploration Inc.

Dome West Project Claim Map

Date: July, 2019 NAD 1983 UTM Zone 17N
 Name: TS File: dw_2019_claim_map

Figure 3

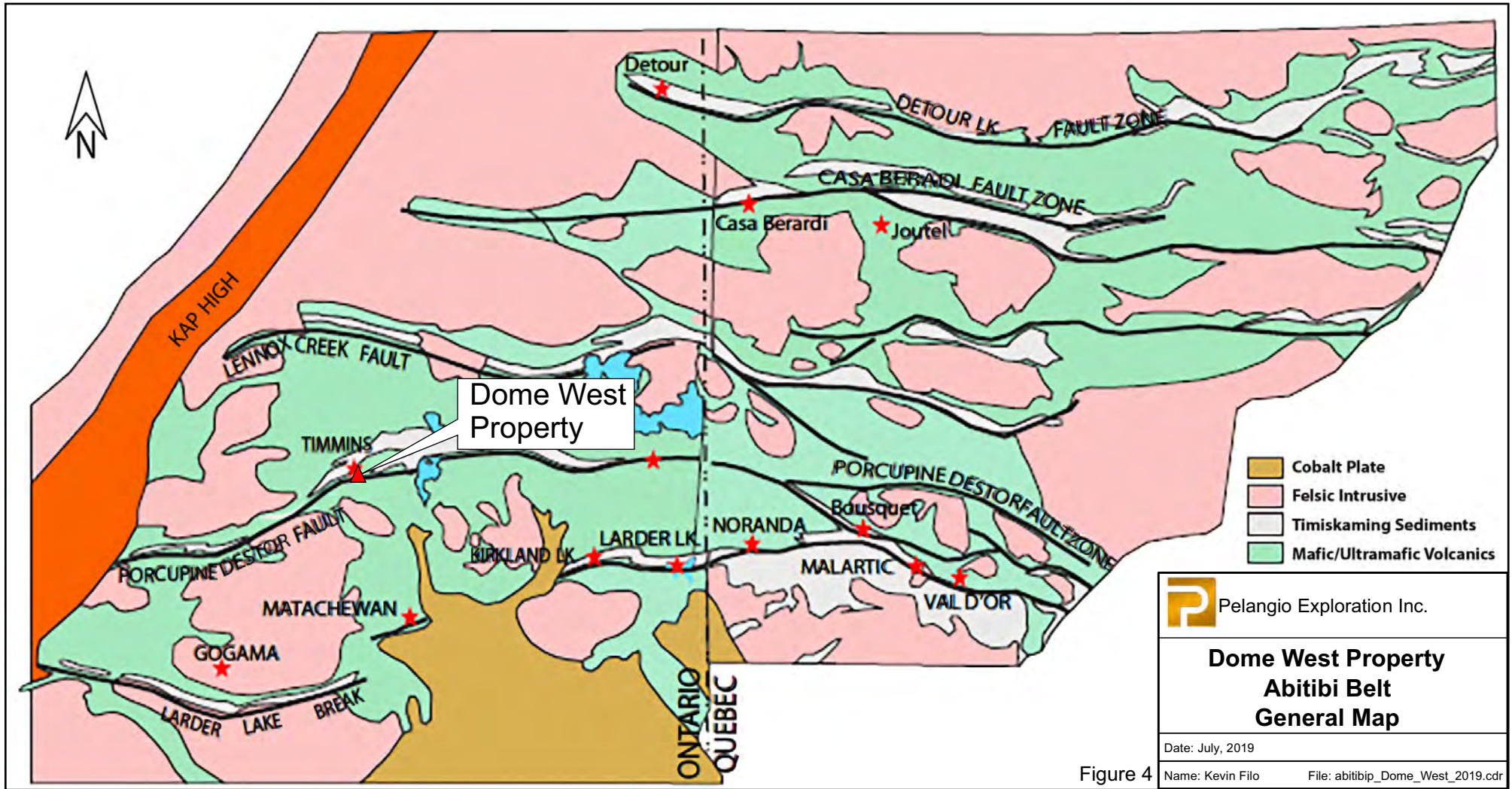


Figure 4

trees were cut for the drill pad. The site was inspected by Newmont Goldcorp environmental personnel and the site was deemed to have met Newmont Goldcorp environmental standards. No remediation of the site was requested and small report was issued reflecting the Newmont Goldcorp inspection.

In Ontario an exploration permit is required to conduct diamond drilling. The permit for the Dome West property was issued to Mr. Kevin Cool with permission granted to drill three drill holes within what is now cell 181653 (formerly claim 4216039 at time of permit issuance). The permit number issued granting permission complete the recent drilling was work permit number PR-17-11068.

Accessibility, Climate, Local Resources, Infrastructure, and Physiography:

Access to the Dome West Property is obtained from the City of Timmins by heading east from the Timmins city centre through Schumacher to Gold Centre. Immediately east of Gold Centre a hydro distribution facility is present. Along the northern edge of the hydro facility is an old rail line and this rail line cuts the north edge of the property. Access to the property can be gained on foot or ATV via the rail line. Once on the property various parts of the property can be accessed by walking along the numerous hydro lines cutting across the property. Alternatively with permission the southern portion of the property can be accessed through Newmont Goldcorp's Dome Mine Property through a series of old trails extending from where the main haul road intersects the back road highway. Note, permission to access the Dome West Property requires Newmont Goldcorp written permission as certain access points are part of an active mining operation.

The main centre with facilities and supplies proximal to the property is the City of Timmins. Timmins is a significant mining town with accommodations, restaurants and various supply and machine shops. The town also has a skilled work force for both mining and mineral exploration.

The Dome West property has variable topography with limited rock exposure and areas with substantial muskeg as well. The author observed that the property is covered by substantial jack pine forest in certain areas.

Climate is typical of northeastern Ontario with below freezing temperatures (-5 to -40 degree Celsius) from November to April and brief periods of hot weather in the summer from 10 to 30 degrees Celsius. Precipitation averages 80 cm per year, with a substantial portion in the form of snow averaging 2.4 m. per year. General exploration is restricted to the month of June to September, when the ground is not covered by snow. However, drilling and geophysical work can be carried out in the winter months when a thick snow pack improves access to otherwise swampy areas.

History:

The Dome West Property was originally called the Central Porcupine Property. An assessment file T-143 located in the resident geologists office in Timmins Ontario summarizes the known exploration history on the property.

In the 1930's some development work was completed on claims immediately to the west

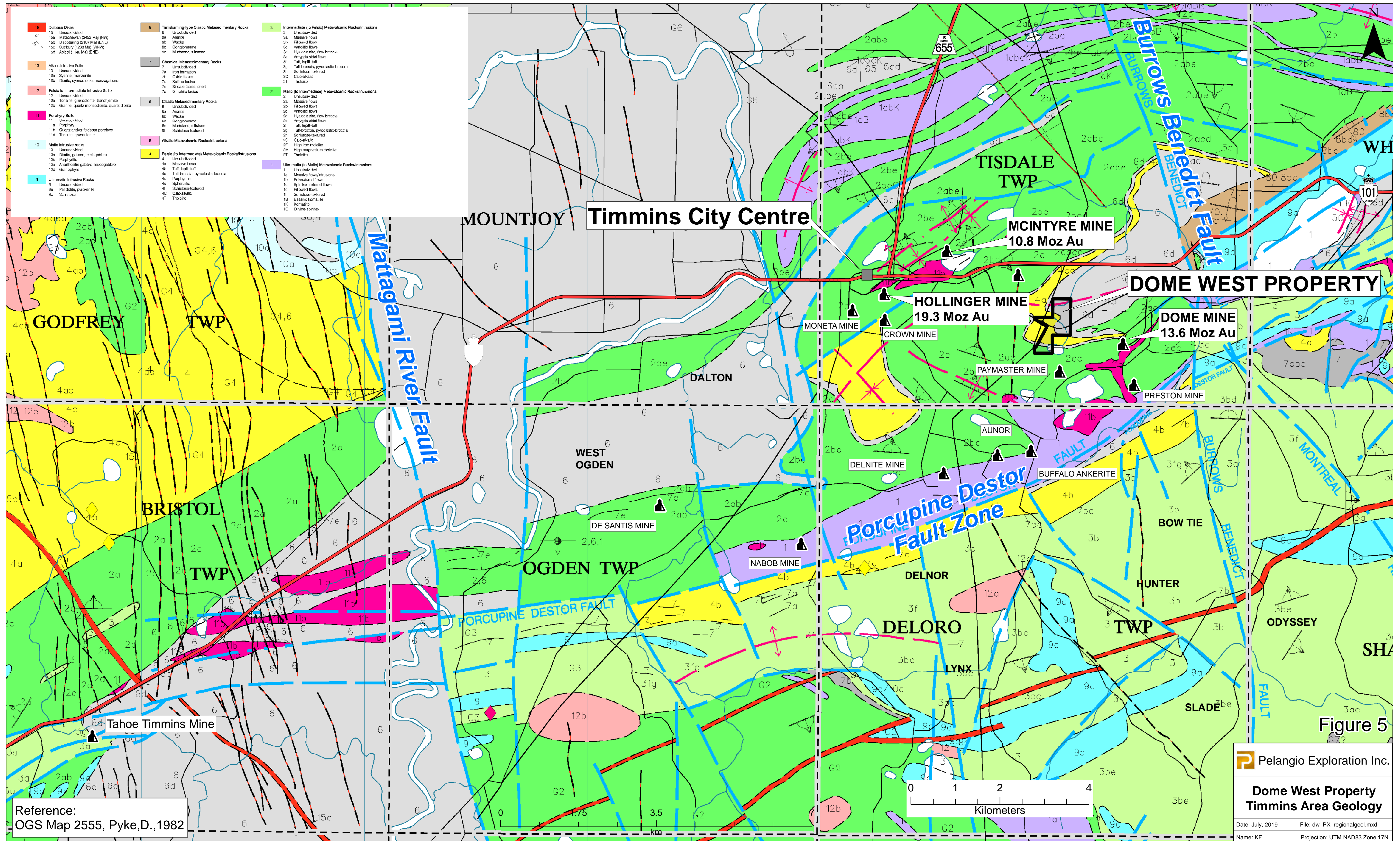
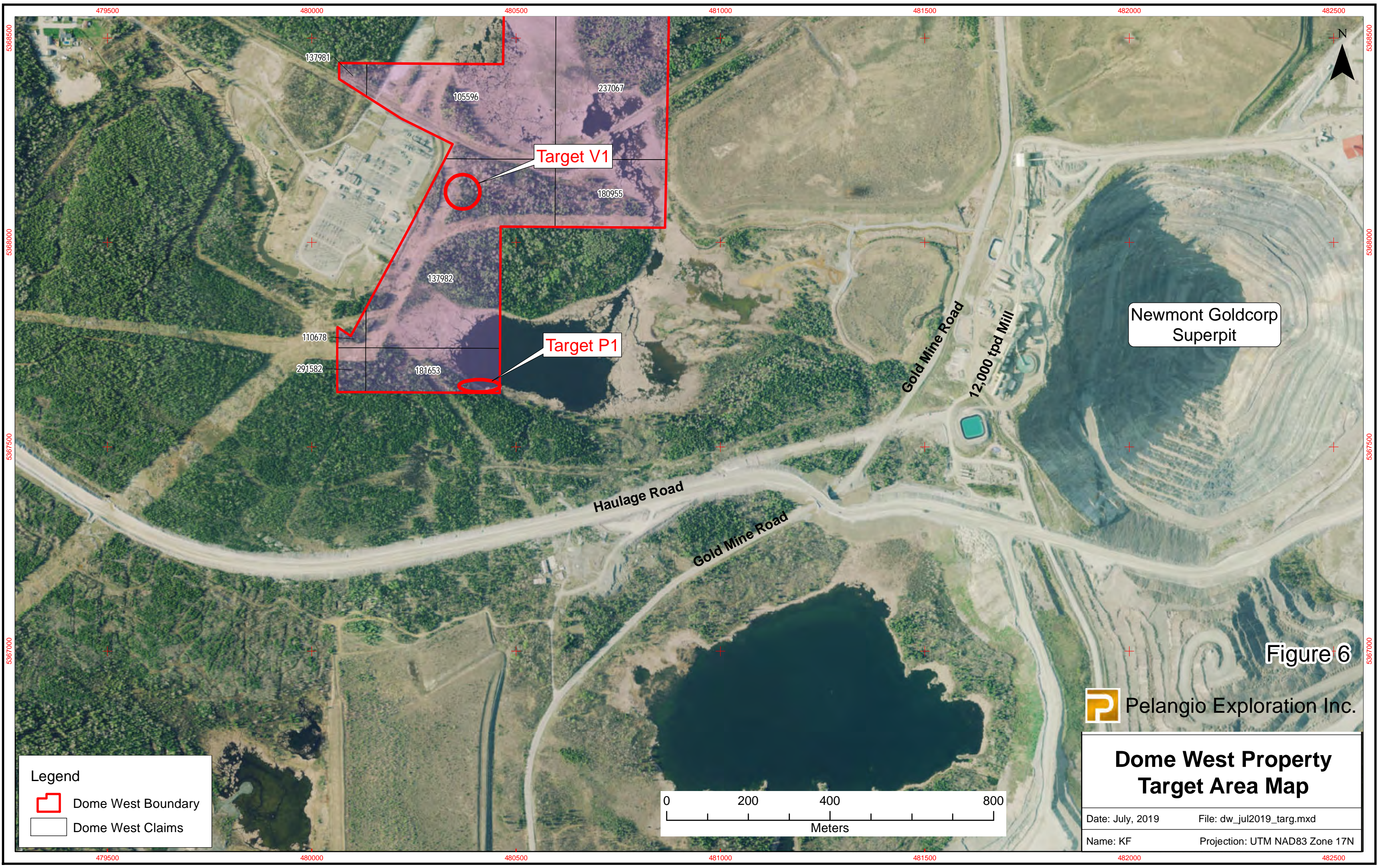


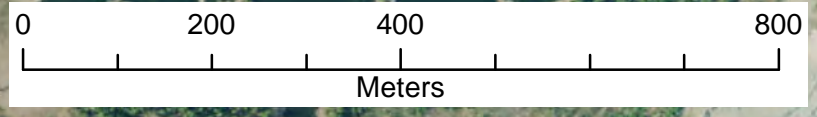


Figure 5



Legend
 Dome West Boundary
 Dome West Claims



 Pelangio Exploration Inc.

**Dome West Property
Target Area Map**
Date: July, 2019 File: dw_jul2019_targ.mxd
Name: KF Projection: UTM NAD83 Zone 17N

Figure 6

Newmont Goldcorp
Superpit

Gold Mine Road
12,000 tpd Mill

Haulage Road
Gold Mine Road

Target V1

Target P1

137981
105596
237067
180955
137982
110678
291582
181653

of current claim block on the 1000 foot level. A few flat holes were drilled to the east of this development work crossing into the current subject property. These holes tested a felsic fragmental unit (latite) for gold. No significant values were reported. Also, a few surface holes were also completed in the southwestern portion of the current subject property and again no values were reported.

The author observed a number of pits, trenches and a shallow shaft in northern portion of the property (V1 target area, Fig.6). No record of any historical sampling exists for these workings. It is the authors opinion that this work likely preceded the historical drilling described above.

In recent years Mr. Kevin Cool completed some preliminary geophysical surveys to maintain the lands in good standing. In general this project has had very little historical exploration conducted on it considering its proximity to the Dome and Paymaster Mines.

Geological Setting:

Regional Geology:

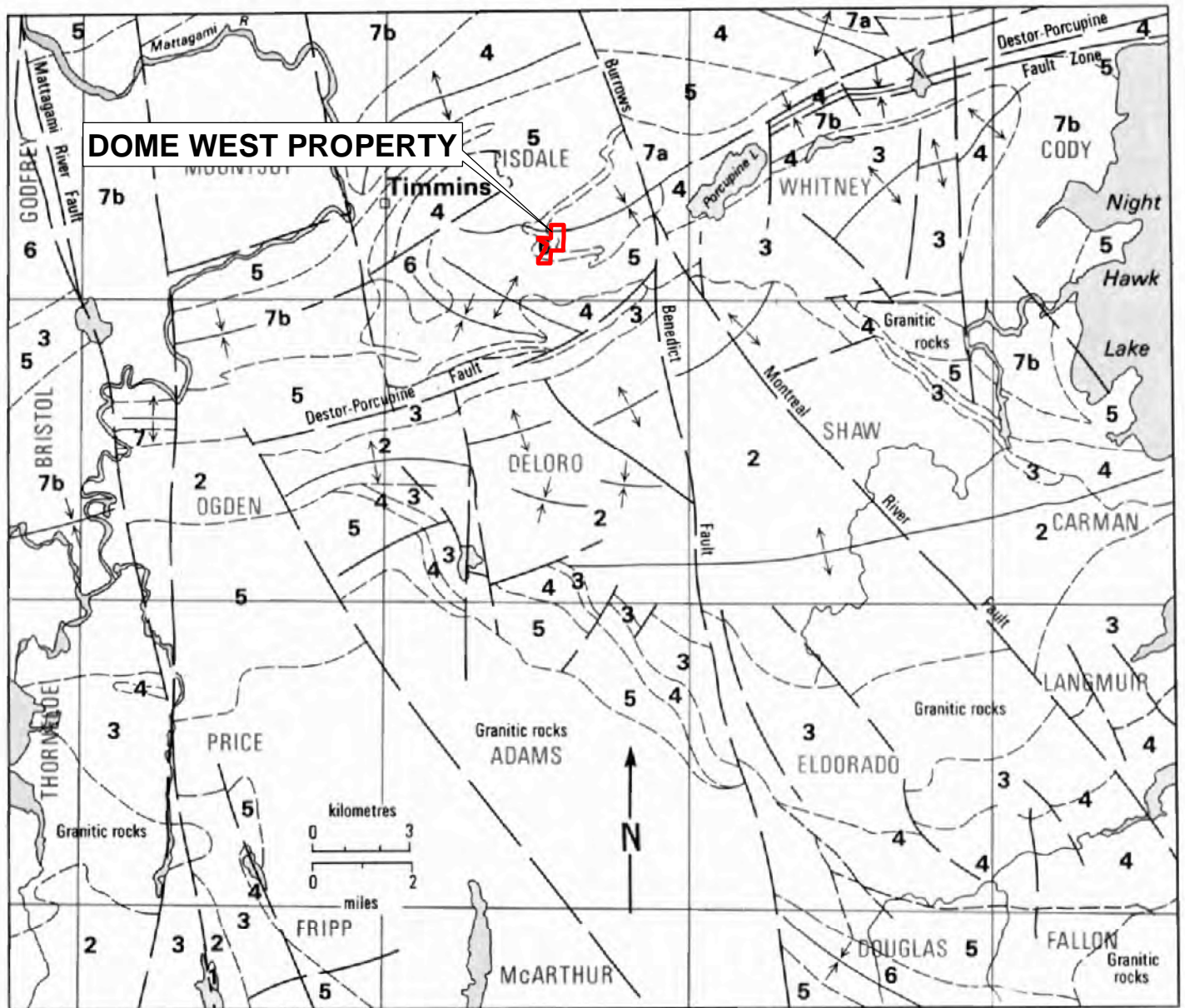
The Dome West Property is located in the Abitibi Greenstone Belt of the Superior Province of the Canadian Shield. The Abitibi Greenstone belt is a large granite-greenstone terrain some 150,000 km² in area extending from Lake Superior in north-central Ontario through into north-central Quebec. Measuring 750 km long by 200 km wide, the Abitibi Greenstone belt is the largest greenstone belt within the Canadian Shield. (see Fig.4)

Metamorphic grade varies from greenschist to lower amphibolite facies. Recent U-PB Zircon geochronology has shown that the volcanic-sedimentary pile accumulated in three major cycles over a period of 50 million years. Most of the volcanic activity is interpreted to have occurred between 2730 and 2700 Ma (Corfu et al, 1989). The Abitibi Greenstone belt is the most prolific Archean terrain in terms of copper-zinc sulphide mineralization and gold mineralization in Canada.

Major east and northeast trending faults (Destor Porcupine Deformation Zone Cadillac-Larder Deformation Zone), were active throughout the main periods of volcanism, and became the focus of a late period of alkaline volcanism and sedimentation between 2680 and 2677 Ma. These deformation zones are the focus of most of the major gold deposits found within the Timmins, Kirkland Lake, and Holloway gold camps. In excess of 120 million ounces of gold has been produced from mines associated with these two major structures.

The lithological units within the Abitibi Belt has been grouped into a series of stratigraphic groups. OGS Report 219 authored by Pyke, D.R (1982) outlined the major groups and their relative ages across the Timmins area. The main stratigraphic groups within the Timmins area were designated Tisdale and Deloro Groups historically; Pyke in 1982 revised the formations within these groups to more accurately reflect the stratigraphic relationships across a broader area of the camp. Maps from Pyke's report shown in figures 7 and 8 show the various stratigraphic relationships, structure and geology of the area including the current subject property.

The most significant structural break in the general area in the Porcupine Destor Fault which is located approximately 2km southeast of the southeast corner of the property.



DOME WEST PROPERTY

Legend

- Porcupine Group**
- 7 a. Upper Formations
 - 7 b. Lower Formations
- Tisdale Group**
- 6 Upper Metavolcanic Formation
 - 5 Middle Metavolcanic Formation
 - 4 Lower Metavolcanic Formation

- Deloro Group**
- 3 Upper Metavolcanics Formation
 - 2 Middle Metavolcanic Formation
 - 1 Lower Metavolcanic Formation

Symbols

- Geological boundary
- Fault
- Anticlinal axis
- Synclinal axis

Figure 7

Pelangio Exploration Inc.

**Dome West Property
Distribution of Stratigraphic
Units - Timmins Area**

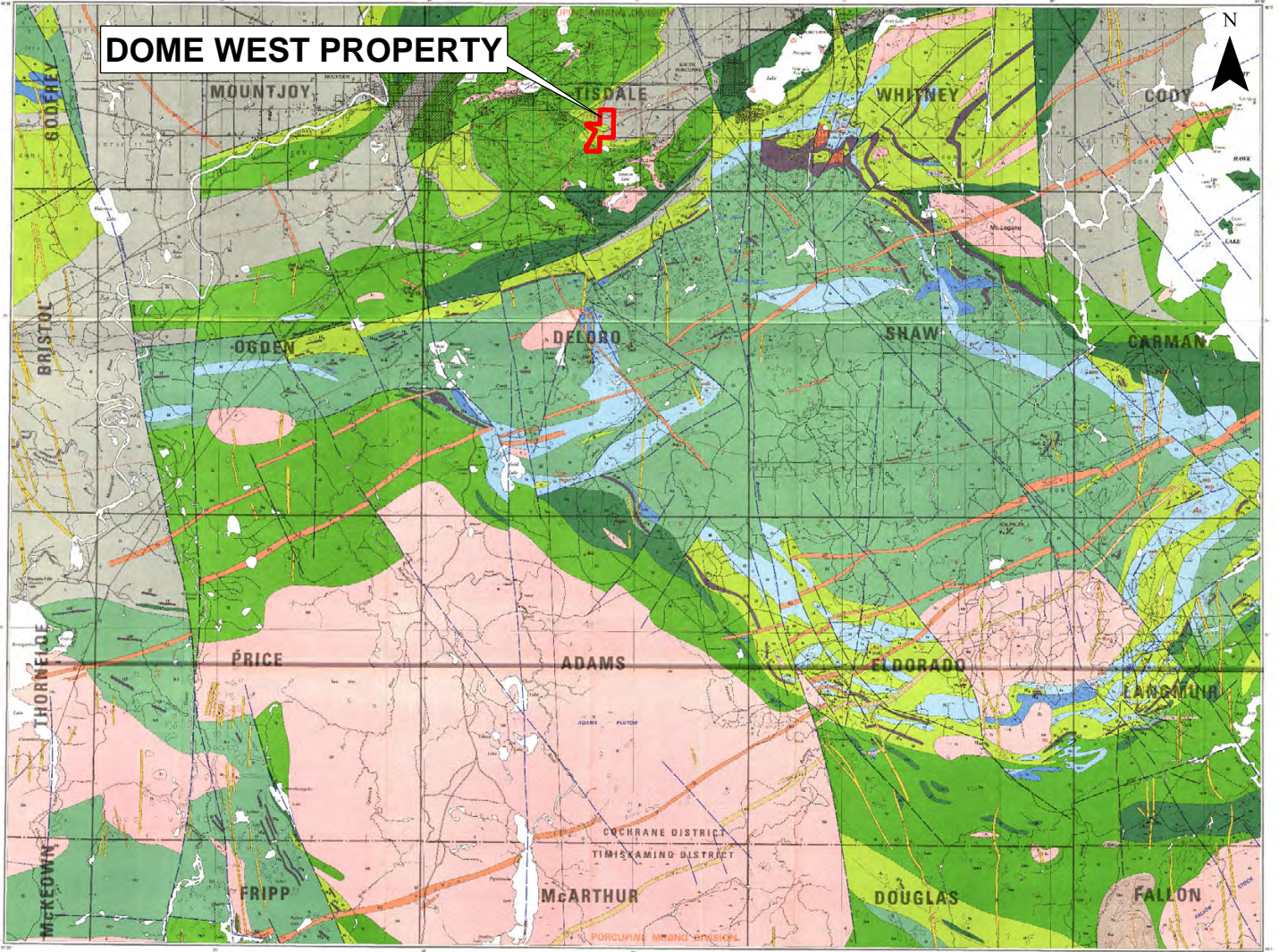
Date: July, 2019

File: dw_PX_bw_geoll.mxd

Name: KF

Projection: UTM NAD83 Zone 17N

Reference:
Figure 9 " Distribution of Stratigraphic
Units - Timmins Area"
OGS Report 219, Pyke,D.,1982



Reference:
 Map 2455
 Timmins Precambrian Geology
 OGS Report 219, Pyke, D., 1982

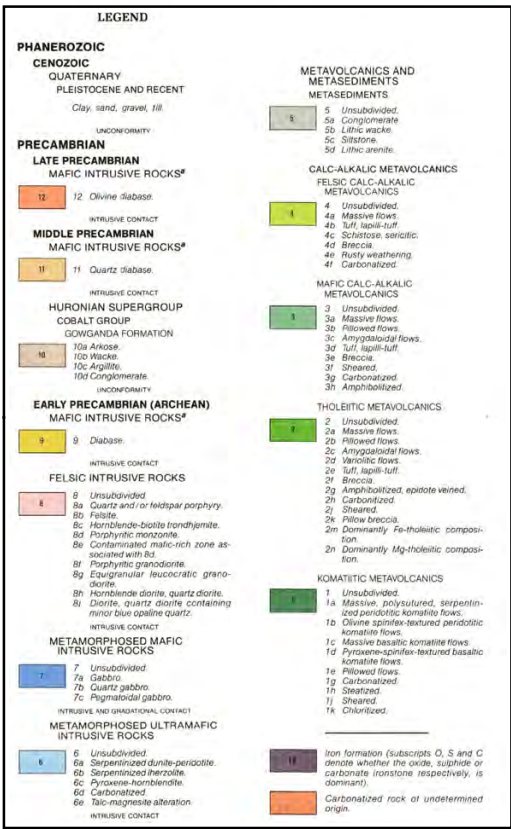


Figure 8

Pelangio Exploration Inc.

Dome West Property Timmins Area Geology

Date: July, 2019

File: dw_PX_2455_geol.mxd

Name: KF

Projection: UTM NAD83 Zone 17N

Property Geology:

The Dome West (DW) Property has very minimal surface outcrop exposure but substantial outcrop exposure on adjoining claims and data from adjoining underground operations allows for a reasonable geological interpretation of the property geology.

The extreme northeast and southeast portion of the property are covered by Porcupine Group sediments which overlie the Tisdale Group volcanics. This sedimentary group is comprised of a series of formations. According to Pyke's report the extreme northeast and southeast portions of the property are covered by a turbidite sequence of wackes and siltstones. The central and southern portions of the property are covered by Tisdale group volcanics. More specifically the central and southern portions of the property are covered by what Pyke has designated the Upper Volcanic Formation or Formation VI. This unit is basically a felsic calc alkaline pyroclastic rock. In an earlier report by S. Furguson (ODM Report 58, 1968) this unit is referred to as a latite. The extreme southern portion of the property including area under Edwards Lake are covered by Pyke's Middle Volcanic Formation or Formation V. (see Figs. 7 & 8) This unit is basically an intercalated package of comprised of iron rich tholeiitic basalts, including a series of variolitic flows. This Formation V roughly correlates to what was designated the Vipond Subgroup documented by Ferguson.

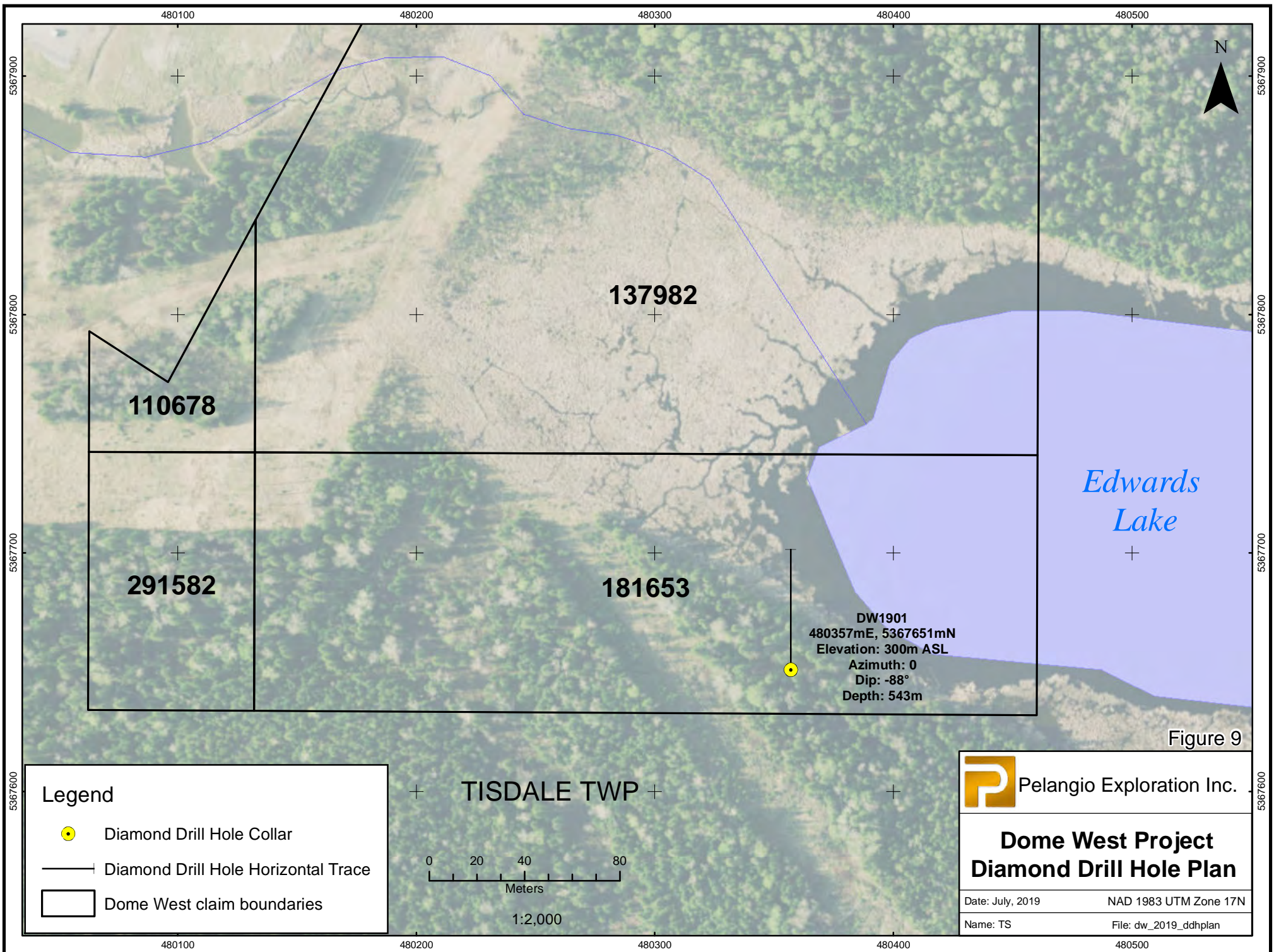
A series of composite level plans and a few sections found in Furguson's report also confirm what is shown on Pyke's maps relative to the DW Property surface geology interpretation in the area south of the north shore of Edwards Lake. What is now Pyke's designated Formation V is shown in Furgeson's report extend northward from the Paymaster into the extreme southern boundary of the DW Property. This is of interest from an economic perspective as many of the veins mined on the adjoining Paymaster Mine are associated with this package of rocks. (see Figs.7 and 8)

The author observed numerous east west shear zone in the northern portion of the property during the course of prospecting efforts. Furguson and Pyke's maps show the Porcupine Syncline cutting across the centre of the northeastern portion of the property.

Survey Control:

The diamond drill hole set up was located using a hand held GPS device. This device was set using the datum Nad 83, Zone 17. Once the actual location of the collar was selected in the field, the drill site location was again verified using geo referenced topographic maps. A final reading on the casing site was taken after completion of the hole for a more accurate location.

Down hole azimuth and dip readings were taken on the hole upon completion of the hole, however the flexit unit used to take these reading appeared to be malfunctioning due to extremely erroneous readings. Thus azimuth readings were ignored and only dip readings were used in the plotting of the actual section.



110678

137982

291582




181653

Edwards
Lake

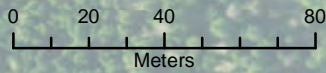
DW1901
480357mE, 5367651mN
Elevation: 300m ASL
Azimuth: 0
Dip: -88°
Depth: 543m

Figure 9

Legend

-  Diamond Drill Hole Collar
-  Diamond Drill Hole Horizontal Trace
-  Dome West claim boundaries

+ TISDALE TWP +



1:2,000



Pelangio Exploration Inc.

**Dome West Project
Diamond Drill Hole Plan**

Date: July, 2019 NAD 1983 UTM Zone 17N

Name: TS File: dw_2019_ddhplan

With respect to surface sampling, all sample points were recorded using a hand held GPS, again using the map datum Nad 83, Zone 17.

Drilling and Trench Sampling Program Discussion:

The recent drill hole DW1901 was located approximately 18 m north of the southern boundary of the property. (Target Area P1, Fig.6) Details on location and orientation of the hole can be seen in the accompanying Table 1 below and in figures 9 and 10.

Table 1: Drill Hole Summary

Hole No.	Easting	Northing	Az.	Dip	Final Depth	Split & Assayed Samples
DW1901	480357	5367651	0 deg.	-88	543 meters	535 samples

The purpose of hole DW1901 was to evaluate the gold potential in a prospective porphyritic intrusive sill (Assessment File T-143) shown to cross into the DW Property from the adjoining Paymaster Mine property. (Furguson, S.,1968) The hole was also targeted to test for new vein systems within the Vipond Subgroup (Pyke Formation V) stratigraphy above and below the porphyry intrusive as this package of volcanics is known to be associated with a number of productive gold veins on the adjoining Paymaster and Dome Mines.

The drill hole was sampled continuously from 3.65 m (bottom of casing) to 543 m or the end of the hole, and a total of 535 samples of split core were taken. The main porphyritic intrusive target was intersected from 288.40-322.90 meters, or in the general area where the unit was projected to extend from the Paymaster Mine. This unit is a "quartz eye" porphyry that is green in color and sericite altered. It had no significant veining and very minimal sulphides; no significant values were noted in this unit.

A number of quartz veins both above and below the porphyry were noted. Of particular interest was a small quartz vein from 260.75 - 260.87 m with two specks of visible gold noted. The initial assay for this vein and associated wall rock returned 0.005 g/t gold, but a subsequent gold fire assay metallic screen analysis returned 0.48 g/t gold over 0.3 meters. The coarse fraction of the screen analysis (Au+100 mesh) returned 6.67 g/t gold confirming the presence of the visible gold observed. The small vein with visible gold was within 1 meter of an altered quartz eye porphyry dyke contact and the immediate vein wall rock was a leucoxene bearing mafic.

A gold intersection of 3.21 g/t Au over 1.25 meters was obtained from an interval associated with quartz stringers and a small quartz vein from 471 to 472.25 meters. This interval included a higher grade section which returned 4.754 g/t gold over 0.75 meters. The gold bearing section contained up to 5% pyrite and again the veins were hosted within a leucoxene bearing mafic volcanic flow.

Other veins of interest were also present within a leucoxene bearing mafic flow from 479.95 to 480.38 and 480.75 to 481.10; gold metallic screen fire assays on these two veins returned 0.66 g/t gold and 0.92 g/t gold respectively. These veins were located a short distance above a variolitic flow at 522.80 to 543 meters, a typical unit found within the prospective Vipond Subgroup stratigraphy.

No significant gold values were obtained in the V1 (Figure 6) from the various, quartz veins, wall rock and shear zones observed. No further work will be conducted in this area at this time.

In light of the recent results further exploration work will be recommended as discussed in the latter portion of this report.

Sampling Method and Approach:

The core handling and sampling procedures at the Dome West Project met current industry standards. Upon completion of an initial review of the core was reexamined using a consistent lithological table established by the project geologist and all pertinent geological information recorded in an excel spread sheet for easy coding and transfer to a database for plan and section work if warranted.

Intervals to be sampled were identified and marked on the core by a company geologist and the following sampling protocol carried out:

- Beginning and end of sample intervals are based on geology and mineralization logged in the core.
- Maximum individual sample length equal to 1.5 metres but majority of samples 1m. or less
- No minimum sample length.
- Contiguous samples are collected along full length of mineralized diamond core.
- Core sample intervals were divided into half lengthways.
- Half of each sample interval was collected in a new plastic bag and tagged with reference sample number. The samples were placed in rice bag sacks and sealed for delivery to the lab by company staff.
- The residual core half was returned to the original location in the core box along with a numbered sample tag for future reference.

With respect to the design of sampling intervals; the actual intervals were designed to provide contiguous sampling across the full width of the mineralized zones including shoulder samples. Particular attention was paid to the following general geological parameters to identify potential gold bearing zones for priority sampling included the following:

- Rock types: No restriction on rock type. Mineralized zones potentially occur in all rock types intersected in the project area.
- Rock deformation: Mineralized zones may include evidence for increased host rock deformation including foliation, ductile strain, and/or brittle fracturing including the following vein-filling minerals: quartz, carbonates, feldspars, sulphides (in particular chalcopyrite, sphalerite, \pm pyrite and pyrrhotite).
- Rock alteration: Mineralized zones may be marked by an increase in the following alteration types within the host rock: chloritic alteration, carbonate alteration, sericitization, sulphidization (in particular chalcopyrite \pm pyrite and pyrrhotite) and silicification.
- Visible native gold

It should be noted that within the sampled section of core there were rare instances of missing core due to drilling problems associated with poor or broken ground conditions. A notation of these ground conditions were made in logs. However, on an over all basis sample quality was considered excellent and representative of the observed mineralized intervals.

Sample Preparation, Analyses and Security:

Core from the Dome West Program was reviewed and sampled at a secure logging facility in Timmins Ontario. The core was logged and tagged for sampling by an experienced geologist and cut by a technician under the supervision of the project geologist as per protocols described in the previous section. Cutting of the core was completed by an experienced technician, Mr. D. Bryant.

For the Dome West project the standard operating procedure relative to gold assays is to record in the log and/or data base if a standard gold fire assay or pulp metallic gold fire assay was completed. If a pulp metallic assay was completed it was put into the data base and taken as the most accurate representation of the sample and recorded in both the log and data base. In the event of a duplicate assay completed on a sample such as a check by the lab the average of the two analysis was placed in the log and the data base.

Analysis for the Dome West project was completed at Actlabs in Timmins Ontario. Basically all samples were fire assayed with and AA finish using industry standard fire assay procedures. If the sample returned 5000 ppb or greater, the sample was re-assayed with a gravimetric finish. In a few instances metallic sampling (Metallic Screen Assay) was performed as a check for potential free gold. Full details on the methodology utilized by Actlabs for their gold assaying procedures can be obtained from Actlabs.

Standard quality control procedures are present in the lab utilized. However, in addition to the quality control at the labs an Oreas standard and a blank sample was submitted for QA/QC requirements.

Data Verification:

As described above exploration at Pelangio's Dome West Project including core logging, sampling procedures and record keeping are industry standard. The author personally supervised the entire program and was on site during the time the work was carried out. Further, the author personally examined all drill core, and selected all surface field samples. The author also supervised sampling technicians during the course of the program. Prior to completion of this current report the author reviewed all data base entries, drill logs, plans, and sections for errors prior to submission. From the material reviewed to date no major discrepancies were noted.

Conclusions and Recommendations:

The recently completed 543 meter drill hole (DW1901) intersected the quartz eye porphyry sill target, the porphyry target unfortunately did not return any significant gold mineralization. A minor stringer with VG was noted proximal to a porphyry dyke thought

N



105596

137982

110678

291582

181653

Edwards Lake

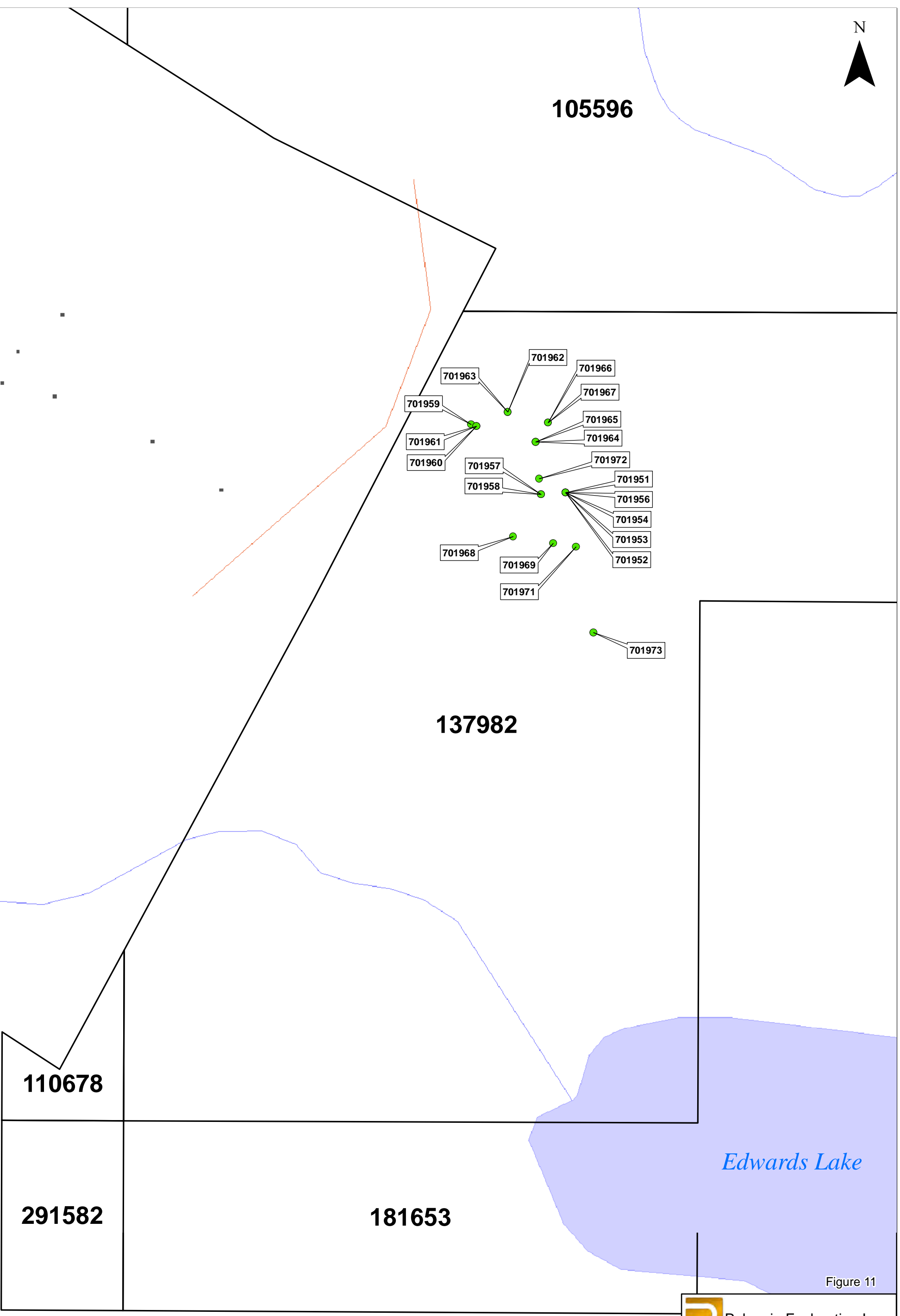


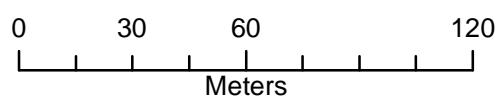



Figure 11

Legend

-  prospecting sample location
-  Dome West claim boundaries



 Pelangio Exploration Inc.

**Dome West Project
Sample Location Map**

Date: July, 2019 NAD 1983 UTM Zone 17N
Name: TS File: dw_2019_sample_map

to be related to the main porphyry body. The hole also intersected a number of quartz veins; one interval of both quartz stringers and a small vein with some sulphide mineralization returned 3.21 g/t gold over 1.25 meters. Other smaller veins above and below the porphyry returned anomalous gold values ranging from 0.37 g/t gold to 0.92 g/t gold. The gold values were hosted in veins within leucoxene bearing mafic flows.

The stratigraphy hosting the veins are thought to be from Pyke's Formation V or using older terminology, the Vipond Subgroup. The Vipond Subgroup is a favorable package of volcanics known to host productive veins at the adjoining Paymaster Mine. It should be noted a variolitic flow unit typical of the Vipond Subgroup was intersected in the latter portion of DW1901 from 522.80 to 543 meters. Further, productive vein systems were also known to be present along the porphyry volcanic contact at the former Paymaster Mine as well (Ferguson, S., 1968). The limited drilling to date on the Dome West property has shown a favorable environment for gold deposition similar to the adjoining mines and in light of the fact a number of veins were intersected with some gold values of interest some further drilling is warranted.

Some consideration should be given to drilling a deep hole with a 180 degree azimuth collared from the north shore of Edwards Lake to further test for new veins systems at depth and the contact of the porphyry unit at depth as well. A few holes may be required along the same section line as it is known that the plunge of mineralized veins in this area have a steep plunge orientation and a single drill hole could easily over shoot or under shoot such a target. A staged drilling program would be the best approach so as not to waste meterage and allow the geologist to assess results in a timely fashion.

Respectfully Submitted



J. Kevin Filo, P. Geo.

References:

Central Porcupine Mines, 1937, Assessment File T-143, Office of the Resident Geologist, Timmins Ontario.

Cool, K., Private Files

Corfu, F., 1989, U-Pb Zircon Geochronology in the Southwest Abitibi Greenstone Belt, Superior Province, Canadian Journal of Earth Science, Volume 26, No. 9, p. 1747-1763.

Ferguson, S., 1968, Geology and Ore Deposits of Tisdale Township, Ontario Department of Mines, Geological Report 58.

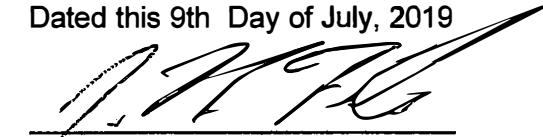
Jensen, J.S., 1986, Mineralization and Volcanic Stratigraphy in the Western Part of the Abitibi Subprovince, Ministry of Northern Development and Mines, OGS Miscellaneous Paper 129, p.69-87.

CERTIFICATE OF AUTHOR

I, J. Kevin Filo, P. Geo. do hereby certify that:

1. I am a consultant for Pelangio Exploration Inc.
2. I graduated with an Honours Bachelor of Science Degree in Geology from Laurentian University in Sudbury in 1980.
3. I am a member of the Association of Professional Geologists of Ontario (Reg. No. 0220).
4. I have worked as a geologist for a total of 39 years since my graduation from university.
5. I am responsible for an non- independent review of the current subject report and I was responsible for the planning and supervision of the recent drilling and surface sampling program
6. I have had no prior involvement with the property that is the subject of the current report.
7. I am not aware of any material fact or material change with respect to the subject matter of the report that is not reflected in the report, the omission to disclose which would make the report misleading.
8. I am not independent of Pelangio Exploration as I presently control a substantial share position in Pelangio Exploration .

Dated this 9th Day of July, 2019



Signature of Qualified Person
J. Kevin Filo P. Geo.

Appendix 1: Diamond Drill Log

PELANGIO EXPLORATION

Prospect: Dome West

DDH: DW1901

Core Size: NQ

CLAIM: Cell 181653

Azimuth/Dip: 360/-88

Tests: see last page

EOH: 546m.

Grid Location: N/A

UTM: 480357E 5367651N Nad 83 Zone 17

Date Started: April 15/19 Date Completed: April 24/19

Core Storage: Pelangio Office Connaught Ontario

Drill Company:

NPLH Drilling

Logged by:

K. Filo

Completion of Logging:

May 15, 2019

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
0.00	3.65	Casing	CAS	Note, casing left in hole, capped with twist cap & steel flag.						
3.65	12.50	Mafic Volcanic	2U	grey colored unit, extremely fine grained and unit does not have any response to magnet what so ever. Moderate to strong HCL response throughout unit. Soft unit as easily scratched with knife. Estimate of 0.5 to 1% disseminated pyrite noted in unit.	855001	3.70	5.00	1.30	0.008	
				A minor fault zone comprised of a series of slips, at upper contact at at 5.9 m oxidation and gouge and contact at 20 deg to CA. Lower contact at 20 deg to CA at 6.75 m. A minor quartz stringer a cm or so wide on contact as well.	855002	5.00	6.00	1.00	0.008	
				This unit has a number of factures though out it, these are generally at 30 and 45 deg to CA in general; some minor slip planes at about 10 deg to CA. in general. Overall good recovery and very competent unit. Unaltered unit.	855003	6.00	7.00	1.00	0.009	
				Some minor stringer and small veinlets of quartz calcite noted, these make up less than 1% of unit but they often contain pyrite. Gradational contact to unit below.	855004	7.00	8.00	1.00	0.01	
					855005	blank			0.008	
					855006	8.00	9.00	1.00	0.008	
					855007	9.00	10.00	1.00	0.007	
					855008	10.00	11.00	1.00	0.007	
					855009	11.00	12.00	1.00	0.007	
12.50	17.70	Mafic Flow Breccia	2FB	From upper contact some weak patchy sericite alteration associated with fragments (flow breccia?) in this unit.						
				As in unit above, soft unit, similar orientation of slips & fractures. Overall very competent unit. Similar pyrite content to unit above a fine grained and grey green color.	855010	12.00	13.00	1.00	0.008	
				Again, non magnetic and has HCL reaction and easy to scratch with knife, Minor rare quartz calcite stinger noted.	855011	13.00	14.00	1.00	< 0.005	
				Lower contact of unit and vein at 90 deg to CA,	855012	14.00	15.00	1.00	< 0.005	
					855013	15.00	16.00	1.00	< 0.005	
					855014	16.00	17.00	1.00	< 0.005	
					855015	storeas221			1.099	
					555016	17.00	17.70	0.70	0.005	
17.70	18.70	Quartz Vein	QV	Fine grained bull white quartz vein that has no HCL reaction. Some very minor sulphides mainly pyrite and pyrrhotite generally <1% overall. A trace of chalcopyrite noted.	855017	17.70	18.70	1.00	< 0.005	
				At lower contact last 2cm of vein brecciated and some smoky grey quartz noted, lower contact at 30 deg to CA.						
18.70	33.80	Mafic Flow Breccia	2FB	This is a fine grained, greyish green unit that is weakly sericite altered. It is soft and easily scratched with knife.	855018	18.70	19.40	0.70	0.014	
				Unit has strong HCL reaction from upper contact to 26 m.	855019	19.40	20.00	0.60	0.011	

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
18.70	33.80	Mafic Flow Breccia (continued)	2FB	but after 26 m. weak reaction at best. No response to magnet throughout. Pyrite content about 0.5 to 1% diss. pyrite to about 26 m. beyond 26 m to lower contact more like trace pyrite. Weak shear fabric and slightly more intense sericite alteration from 26 to 30 m. Shear fabric stretches fragments from 26 to 30, the weak shear fabric oriented at 50 deg to CA.	855020 855021 855022 855023 855024 855025 855026	20.00 21.00 22.00 23.00 24.00 25.00 26.00	21.00 22.00 23.00 24.00 25.00 26.00 27.00	1.00 1.00 1.00 1.00 1.00 1.00 1.00	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 0.006 0.006	
				This unit again has some very minor quartz calcite stringers or small veinlets often containing pyrite. These make up <1% of unit.	855027 855028 855029	27.00 28.00 29.00	28.00 29.00 30.00	1.00 1.00 1.00	< 0.005 < 0.005 < 0.005	
				Overall very competent unit, again a few minor slips at 10 deg or so to CA and fractures parallel fabric for most part at 50 deg to CA.	855030 855031	blank 30.00			< 0.005 0.005	
				Lower contact at 45 deg to CA.	855032 855033 855034	31.00 32.00 33.00	32.00 33.00 33.80	1.00 1.00 0.80	0.005 0.006 0.006	
33.80	35.10	Fault Zone	FZ	This is a distinctive but moderate fault with some gouge and ground rubble core. The rock unit is which the fault is as described in unit immediately above fault except this section has more intense shear fabric, a moderate HCL reaction. Again a few stringers and veinlets of quartz noted. Sulphide content trace. Unit still soft and note shear fabric 30 deg to CA. Lower contact is ground up.	855035	33.80	35.10	1.30	0.005	
35.10	39.40	Mafic Volcanic	2U	This is a fine gr., soft, grey green unit that is weakly ser. altered. It is a massive unit, that is non magnetic and has a strong HCL reaction. Competent interval with a few fractures noted generally at 60 deg to CA.	855036 855037 855038	35.10 36.00 37.00	36.00 37.00 38.00	0.90 1.00 1.00	0.006 0.005 0.006	
				Estimate of 1/2 % disseminated pyrite noted. Gradational contact into lower leucoxene bearing mafic volcanic as very localized leucoxene noted proximal to unit where leucoxene becomes dominant. No significant veining observed.						
39.40	43.80	Mafic Volcanic (Leucoxene)	2U	This is a fine grained, massive unit that is a light grey color. It has numerous skeletal leucoxenes throughout it. It is non magnetic but has a strong HCL reaction. Competent unit, with a few fractures at 50 deg to CA in general. No other significant structures observed. No significant veining noted.	855039 855040 855041 855042 855043	38.00 storeas221 39.40 40.00 41.00	39.40 40.00 41.00 42.00	1.40 0.60 1.00 1.00	0.005 1.096 < 0.005 < 0.005 < 0.005	
				The unit is easily scratched with knife, moderate hardness. Less than 1/2 % disseminated pyrite. Lower contact with vein sharp and at 30 deg to CA.	855044 855045	42.00 43.30	43.30 43.80	1.30 0.50	< 0.005 < 0.005	
43.80	44.80	Quartz Vein	QV	Smoky grey quartz vein that is brecciated and cut by secondary white quartz stringers. Numerous clots & blebs	855046	43.80	44.80	1.00	0.007	

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
43.80	44.80	Quartz Vein (continued)	QV	of fine pyrite making up 3-4% of vein. Lower contact variable but generally subparallel to CA.						
44.80	85.50	Mafic Volcanic	2U	at 44.80 to 66.25	855047	44.80	45.32	0.52	0.005	
				This is a massive greyish colored unit with some patchy	855048	45.32	46.50	1.18	< 0.005	
				grey green sections where there is local very weak patchy	855049	46.50	48.00	1.50	< 0.005	
				sericite alteration. Also this section has patchy areas with	855050	48.00	49.50	1.50	< 0.005	
				leucoxene as well. The unit is fine grained and of moderate	855051	49.50	51.00	1.50	< 0.005	
				hardness as it can be scratched with a knife. The unit	855052	51.00	52.50	1.50	< 0.005	
				reacts to HCL, moderate to strong reaction. Unit is non	855053	52.50	54.00	1.50	< 0.005	
				magnetic. There are a few quartz calcite stringers and clots	855054	54.00	55.50	1.50	< 0.005	
				noted, these occasionally have some pyrite with them. In	855055	blank			< 0.005	
				general they are only a few mm wide but in a rare instance	855056	55.50	57.00	1.50	< 0.005	
				a couple of cm. These stringers and veinlets make up about	855057	57.00	58.50	1.50	< 0.005	
				2% of entire interval. Overall this is a very competent unit	855058	58.50	60.00	1.50	< 0.005	
				with excellent RQD and recovery. Very minor fault zone	855059	60.00	61.50	1.50	< 0.005	
				with a few slips at 10 deg to CA and blocky broken core	855060	61.50	63.00	1.50	< 0.005	
				from 49.62 to 53.30, blocky broken contacts. Also in	855061	63.00	64.50	1.50	< 0.005	
				unit other very minor slip planes at about 10 deg to CA.	855062	64.50	66.00	1.50	< 0.005	
				Also a few fractures noted at 60 & 45 deg to CA in	855063	66.00	67.00	1.00	< 0.005	
				general. There is some disseminated and stringers of	855064	67.00	68.00	1.00	< 0.005	
				pyrite noted but over all 1/2 to 1% total. Some sections over	855065	st0reas221			1.082	
				0.5 meters may have a little more pyrite but in general	855066	68.00	69.00	1.00	< 0.005	
				minimal sulphide content.	855067	69.00	70.00	1.00	< 0.005	
					855068	70.00	71.00	1.00	< 0.005	
				at 66.25 to 85.50	855069	71.00	72.00	1.00	< 0.005	
				this interval distinctly similar to interval just described	855070	72.00	73.00	1.00	< 0.005	
				above. Some minor differences, like perhaps closer to 1%	855071	73.00	74.00	1.00	< 0.005	
				pyrite; some patchy leucoxene still locally and again locally	855072	74.00	75.00	1.00	< 0.005	
				some patchy weak greenish grey sections that are sericitic	855073	75.00	76.00	1.00	< 0.005	
				sericite alteration very weak. Again a few quartz calcite	855074	76.00	77.00	1.00	< 0.005	
				stringers & veinlets noted, these are minor and make up	855075	77.00	78.00	1.00	< 0.005	
				maybe 2% of unit, the bulk of these noted from 66 to 68 m.	855076	78.00	79.00	1.00	< 0.005	
				This interval is also non magnetic, and it has a moderate	855077	79.00	80.00	1.00	< 0.005	
				to weak HCL reaction. This section of unit of moderate	855078	80.00	81.00	1.00	< 0.005	
				hardness and can be scratched with knife but with a little	855079	81.00	82.00	1.00	< 0.005	
				effort. Competent section with good recovery and RQD.	855080	blank			< 0.005	
				Again some minor slips at about 10 deg to CA and a few	855081	82.00	83.00	1.00	< 0.005	
				fractures noted at 45 deg to CA in general. A blocky broken	855082	83.00	84.00	1.00	< 0.005	
				section with a few slips (minor fault) from 77.4 to 78.30.	855083	84.00	85.00	1.00	< 0.005	
				Lower contact sharp at 40 deg to CA.	855084	85.00	85.50	0.50	0.006	

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
85.50	97.35	Mafic Volcanic (Hyaloclastite)	2HY	This section is an excellent example of hyaloclastite texture. The unit comprised of numerous angular shards in a fine grained matrix but mainly comprised of fragments. The fragments range in size from a few mm to 15 cm but the majority in the cm or less range. The color of the fragments could be described as a dirty white color with a few tan colored fragments (carb altered?). The unit is moderate to soft in hardness and can be scratched with a knife. Weak to moderate HCL reaction and unit is non magnetic. Very competent unit with excellent recovery and RQD. There are a few minor slips in unit about 20 deg to CA and locally some weak shear fabric over a couple of meters at 20 deg to CA. Also a few fractures generally 35-40 deg to CA. Only one bull white colored quartz vein noted from 96 to 96.40 m. associated with a slip plane at 20 deg to CA. The vein was not mineralized. The unit itself has fairly minor disseminated pyrite and a few tiny stringers, overall estimate of 1/2% pyrite at best. Hyaloclastite texture becomes patchy for last meter of this unit and totally disappears, gradational contact with unit below.	855085 855086 855087 855088 855089 855090 855091 855092 855093 855094 855095 855096 855097 855098	85.50 86.00 87.00 88.00 89.00 stores221 90.00 91.00 92.00 93.00 94.00 95.00 96.00 96.40 97.35	86.00 87.00 88.00 89.00 90.00 91.00 92.00 93.00 94.00 95.00 96.00 96.40 97.35	0.50 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.40 0.95	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 1.071 0.011 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	
97.35	118.50	Mafic Volcanic	2U	at 97.35 to 108.50 at start of unit there are a number of amygdules with calcite in them for a couple of meters. The unit is very fine grained unit that is generally grey in color but there is a tan colored section from 100 to 105.5; this section is thought to be carb/sericite altered. This unit is non magnetic and has a strong HCL reaction. Also the unit is generally moderate to soft with respect to hardness and minimal effort required to scratch with a knife. Very rare quartz carb stringer or veinlet noted, less than 1% of this interval of unit. This is a very competent unit with excellent recovery and RQD. Again this unit has a few minor slips at 20 deg to CA and a few fractures at 35-40 deg to CA. No major structure observed. The unit contains <1/2% pyrite overall. at 108.5 to 118.50 Continuation of fine grained, grey colored unit that is moderate to soft with respect to hardness as scratched with knife fairly easily. This section is non magnetic. Beyond 110 m to 118.50 HCL reaction becomes extremely weak to	855099 855100 855101 855102 855103 855104 855105 855106 855107 855108 855109 855110 855111 855112 855113 855114 855115 855116 855117	97.35 98.00 99.00 100.50 102.00 103.50 105.00 blank 105.00 106.50 108.00 109.50 109.50 111.00 112.00 113.00 114.00 115.00 116.00 117.00 118.00 118.50	98.00 99.00 100.50 102.00 103.50 105.00 106.50 108.00 109.50 111.00 112.00 113.00 114.00 115.00 116.00 117.00 118.00 118.50	0.65 1.00 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.50	< 0.005 0.005 < 0.005 < 0.005 < 0.005 0.005 < 0.005 < 0.005 < 0.005 < 0.005 0.01 0.023 0.006 < 0.005 < 0.005 < 0.005 0.006 0.005 < 0.005	

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
				non existant. From 109 to 110 & 111 to 112 m. some quartz stringrs and veinlets making up 4 and 7 percent respectively						
97.35	118.50	Mafic Volcanic (continued)	2U	of these 1 m intervals. These intervals also have some py mineralization associated with them; from 111-112 there is significant pyrite, estimate 5-7%. Overall this section has slightly more pyrite mineralization, estimate of 1/2-1%. Again this is a competent unit with good RQD and excellent recovery. There are a few minor slip planes noted at 20 deg to CA. and a few fractures at 35 deg to CA. No major structure or fabric observed. Lower contact gradational.						
118.50	144.90	Mafic Flow Breccia	2FB	at 118.5 to 129.65	855118	118.50	119.00	0.50	< 0.005	
				This unit initially starts off with a few fragments present	855119	119.00	120.00	1.00	< 0.005	
				and thus the gradational contact from unit above and then	855120	storeas221			1.084	
				there are substantial number of fragments. This unit	855121	120.00	121.00	1.00	< 0.005	
				thought to be perhaps representative of some sort of	855122	121.00	122.00	1.00	< 0.005	
				debris flow as there are numerous types of fragments	855123	122.00	123.00	1.00	< 0.005	
				ranging in size from a few mm to about 2.5 cm. The	855124	123.00	124.00	1.00	0.005	
				fragments are sub angular to sub rounded. The matrix	855125	124.00	125.00	1.00	< 0.005	
				material surrounding the fragments is light grey in color	855126	125.00	126.00	1.00	< 0.005	
				and fine grained. Note, with respect to fragments some	855127	126.00	127.00	1.00	0.005	
				fushitic fragments noted and rare intrusive felsic fragment.	855128	127.00	128.00	1.00	< 0.005	
				From about 126 to the end of this interval dominantly	855129	128.00	129.00	1.00	< 0.005	
				tan brown (carb altered?) angular volcanic fragments.	855130	blank			< 0.005	
				This unit is of moderate hardness and can be scratched	855131	129.00	130.00	1.00	< 0.005	
				with a knife. There is a rare quartz stringer or two note and	855132	130.00	131.00	1.00	< 0.005	
				pyrite content estimated to be <1/2% in general pyrite very	855133	131.00	132.00	1.00	< 0.005	
				fine grained and disseminated where present. No major	855134	132.00	133.00	1.00	< 0.005	
				structure of fabric observed. A few slips noted at 20 deg	855135	133.00	134.00	1.00	< 0.005	
				to CA and a few fractures at 35-40 deg in general. This	855136	134.00	135.00	1.00	< 0.005	
				is a very competent interval with excellent RQD & recovery.	855137	135.00	136.00	1.00	< 0.005	
				Unit has a weak to moderate HCL response and it is non	855138	136.00	137.00	1.00	< 0.005	
				magentic.	855139	137.00	138.00	1.00	< 0.005	
					855140	storeas221			1.115	
				at 129.65 to 144.90	855141	138.00	139.00	1.00	< 0.005	
				This interval is a continuation of the mafic flow breccia unit.	855142	139.00	140.00	1.00	0.005	
				Beyond 131 m. to 137.30 fragments less plentiful & where	855143	140.00	141.00	1.00	< 0.005	
				present they are less distinctive (ghost like). From 131 to	855144	141.00	142.00	1.00	< 0.005	
				131.3 more of a tan colored unit (carb altered?). Beyond	855145	142.00	143.00	1.00	< 0.005	
				137.3 numerous subangular to sub rounded fragments &	855146	143.00	144.00	1.00	< 0.005	
				from 139.5 weakly fushitic appearance and a number of	855147	144.00	144.90	0.90	< 0.005	
				distinct fushitic fragments to 143.50. Again, fragments of						
				various lithologies in this section. The matrix material of						
				this interval is fine grained. Variable HCL response, weak to						

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
				strong, particularly strong in tan colored section at 131.3 to 137.3. This interval is non magnetic. A weakly sheared section noted from 137.3 to 138, shear fabric at 20 deg						
118.50	144.90	Mafic Flow Breccia (continued)	2FB	to CA. Upper contact of shear associated with minor slip plane at 20 deg to CA. Overall this section is a very competent interval with a good RQD and excellent recovery. The interval also has a few fractures present generally at 35 deg to CA. Variable hardness of this unit ranging from moderate to soft. No significant veining observed. Some leucoxene noted in matrix material in this section. Note, very minimal pyrite again, estimate <1/2%. Lower contact sharp and at 30 deg to CA.						
144.90	157.60	Mafic Volcanic (Leucoxene)	2U	This is a massive, fine grained grey colored, leucoxene bearing mafic volcanic. A few minor quartz stringers noted but these make up about 1% of unit at best. Unit is of mod. hardness and it is non magnetic and it has a strong HCL reaction. No major structure observed in unit. A few minor slip planes noted at about 20 deg to CA and some fractures noted at about 40 deg to CA in general. This unit has a good RQD and recovery is 100%. Note, in latter portion of this unit beyond 151 m. leucoxenes less pronounced. Sulphide content mainly pyrite and estimate of trace to 1/2% at best overall.	855148 855149 855150 855151 855152 855153 855154 855155 855156 855157 855158	144.90 146.00 147.00 148.50 150.00 151.50 153.00 154.50 154.50 156.00 157.00	146.00 147.00 148.50 150.00 151.50 153.00 154.50 blank 156.00 157.00 157.60	1.10 1.00 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.00 0.60	< 0.005 < 0.005 0.005 < 0.005 0.005 < 0.005 < 0.005 < 0.005 < 0.005 0.006 < 0.005	
157.60	163.15	Mafic Flow Breccia	2FB	This unit contains a number of various types of fragments both sub angular to sub rounded. In some portions there are only a few fragments but others distinctly more fragments and very little matrix material. There are short intervals of hyaloclastite. Again this section thought to be some sort of debris flow. Substantial number of fragments present from 159.30 m. onwards. The unit has a fine grained matrix and it is predominantly grey in color, sections with hyaloclastite are tan in color. The matrix material is fine grained. The unit is non magnetic, of moderate hardness and it has a moderate reaction to HCL. Some very minor quartz stringers noted, these make up less than 1% of unit. No significant structure observed. Again a few minor slips generally at 20 deg to CA. and a few fractures at 50 and 60 deg to CA. Competent interval with excellent recovery and RQD. Sparse disseminated pyrite noted estimate of <1/2% overall. Lower contact sharp at 40 deg to CA.	855159 855160 855161 855162 855163 855164	157.60 158.00 159.00 160.00 161.00 162.00	158.00 159.00 160.00 161.00 162.00 163.15	0.40 1.00 1.00 1.00 1.00 1.15	0.011 0.007 0.005 < 0.005 < 0.005 < 0.005	

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
163.15	164.50	Felsic Intrusive	7U	This is a medium grained unit. It is light green in color and appears to be strongly sericite altered. Feldspars difficult to see due to alteration but numerous quartz grains noted and no significant ferro mag minerals present.	855165	163.15	164.50	1.35	< 0.005	
163.15	164.50	Felsic Intrusive (continued)	7U	This unit is of moderate hardness; it has no HCL reaction, and it is non magnetic. No significant mineralization or veining or structure observed. Lower contact sharp and at 55 deg to CA.						
164.50	179.50	Mafic Flow Breccia	2FB	Again, this unit has a number of angular to sub rounded fragments ranging in size from a few mm to 3-4 cm across.	855166	164.50	165.00	0.50	< 0.005	
				There are varying number of fragments in each section, some sections having substantially more fragments than others. This particular interval appears to have more felsic fragments than other sections of this same unit giving it a more felsic appearance. Again, this unit thought to be some sort of debris flow. The unit is light grey in color, non magnetic, and has a moderate HCL reaction. The unit is of moderate to very hard, it can be scratched with a knife but with difficulty. There are only a few minor quartz stringers noted in unit. Very sparse pyrite estimate of trace Locally some weak shear fabric observed such as at 174-175 where fragments are stretched and fabric at 40 deg to CA. This interval is very competent and core recovery at 100%. Excellent RQD in this section. A few slip planes observed at 20 deg to CA in general and a few fractures noted at 40 deg to CA in general. Lower contact on this unit sharp and at 20 deg to CA.	855167	165.00	166.50	1.50	< 0.005	
					855168	166.50	168.00	1.50	< 0.005	
					855169	168.00	169.50	1.50	< 0.005	
					855170	stores221			1.086	
					855171	169.50	171.00	1.50	< 0.005	
					855172	171.00	172.50	1.50	< 0.005	
					855173	172.50	174.00	1.50	< 0.005	
					855174	174.00	175.50	1.50	< 0.005	
					855175	blank			< 0.005	
					855176	175.50	177.00	1.50	< 0.005	
					855177	177.00	178.50	1.50	< 0.005	
					855178	178.50	179.50	1.50	< 0.005	
179.50	186.25	Felsic Intrusive	7U	This unit is medium grained and is light green in color due to significant sericitic alteration. This alteration has altered feldspars in the unit. There are sub rounded grains of quartz evident with the hand lense. (poorly developed quartz eye porphyry?) The unit is non magnetic and has no HCL reaction. The unit is of moderate hardness. No significant veining except for a small broken up quartz vein from 185 to 185.40. No significant mineralization noted. Very competent interval with 100% core recovery and excellent RQD. No major structure observed. Lower contact has some brecciation and wall rock material proximal to actual contact. Contact is at 15 deg to CA.	855179	179.50	180.00	0.50	< 0.005	
					855180	180.00	181.00	1.00	< 0.005	
					855181	181.00	182.00	1.00	0.005	
					855182	182.00	183.00	1.00	< 0.005	
					855183	183.00	184.00	1.00	< 0.005	
					855184	184.00	185.00	1.00	< 0.005	
					855185	185.00	185.40	0.40	< 0.005	
					855186	185.40	186.25	0.85	< 0.005	
186.25	194.90	Mafic Flow Breccia	2FB	at 186.25 to 193.94						
				Again, this unit comprised of numerous fragementes ranging	855187	186.25	187.00	0.75	< 0.005	

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
				from sub angular to sub rounded and with respect to size	855188	187.00	188.00	1.00	0.008	
				a few mm to 5 to 6 cm across. In this section the dominant	855189	188.00	189.00	1.00	< 0.005	
				fragment type appears to be felsic in composition. The unit	855190	stores221			1.167	
				has a light grey color due to the amount of felsic fragments.	855191	189.00	190.50	1.50	0.005	
				The unit is non magnetic and has and a moderate HCL	855192	190.50	192.00	1.50	< 0.005	
				reaction.						
186.25	194.90	Mafic Flow Breccia (continued)	2FB	The unit is difficult to scratch with knife and is considered	855193	192.00	193.50	1.50	< 0.005	
				to be a fairly hard unit. Only a trace of sulphde was noted.	855194	193.50	194.90	1.40	< 0.005	
				Some very weak shear fabric noted from 188-189 where						
				fragments appear stretched. Fabric at about 40 deg to CA.						
				This section has 100% core recovery and excellent RQD.						
				A few slip planes noted at 40 deg to CA.; also some						
				fracture planes at 40 deg to CA. in general. No significant						
				veining of any sort noted. Lower contact gradational.						
194.90	203.00	Mafic Volcanic (Patchy Leucoxene)	2U	This unit is a fine to medium grained mafic volcanic with	855195	194.90	196.00	1.10	< 0.005	
				the occassional fragment. The unit is grey in color, non	855196	196.00	197.00	1.00	0.005	
				magnetic and has a moderate to strong HCL reaction. The	855197	197.00	198.00	1.00	< 0.005	
				unit contains a number of quartz stringers & small veinlets	855198	198.00	199.00	1.00	< 0.005	
				of quartz calcite making up about 2-3% of unit, these	855199	199.00	200.00	1.00	< 0.005	
				are generally sub parallel to the CA for the most part. This is	855200	200.00	201.00	1.00	< 0.005	
				a very comepetent interval again with a few minor slips at	855201	201.00	202.00	1.00	< 0.005	
				about 20 deg to CA and a few fractures at 40 deg to CA	855202	202.00	203.00	1.00	< 0.005	
				in general. Recovery in this interval is about 100% and						
				the RQD is excellent. The unit is of moderate hardness.						
				Some pyrite noted but overall trace to 1/2%. Some patchy						
				leucoxene noted in this unit. Lower contact gradational						
				as increase in fragementes noted in last meter or so.						
203.00	209.35	Mafic Flow Breccia	2FB	Overall this is a a light grey colored unit in general as there	855203	203.00	204.00	1.00	< 0.005	
				are a significant number of lighter colored felsic fragments;	855204	204.00	205.00	1.00	< 0.005	
				however this unit has fragments of various lithologies. The	855205	blank			< 0.005	
				fragments range from a few mm to 6-7 cm across and are	855206	205.00	205.65	0.65	< 0.005	
				generally subangular but some sub rounded as well. There	855207	205.65	206.00	0.35	< 0.005	
				is very little matrix material as fragment dominate the make	855208	206.00	206.40	0.40	< 0.005	
				up of this rock. There is a small felsic dyke present from	855209	206.40	207.00	0.60	< 0.005	
				205.65 to 206.4. The upper contact is along a small slip	855210	207.00	208.00	1.00	< 0.005	
				plane at 20 deg to CA. Slickenslides in slip plane at 90 deg	855211	208.00	209.35	1.35	0.005	
				in slip plane. The lower contct is a distinct fault with gouge						
				also at 20 deg to CA. A quartz vein sub parallel to CA						
				associated with lower conact. Felsic dyke very similar						
				to that described below from 209.35 to 217.50. Other than						
				fault described above no other major structures noted. A						
				few other slips at 20 deg to CA and some fractures at 55						
				deg to CA. Competent interval with 100% recovery and						

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
				good RQD. This unit has a weak to moderate response to HCL and it is non magnetic. Unit has a variable hardness but generally moderate, can be scratched with knife with some effort. Trace of pyrite at best in unit and no quartz veining of significance other than that described above. Lower contact at 20 deg to CA.						
209.35	217.50	Felsic Intrusive	7U	This felsic intrusive is a light grey color with a greenish yellow tinge due to weak sericite alteration. The unit is medium to fine grained. The unit is comprised of feldspar, small quartz eyes (poorly developed quartz eye porphyry?) and some very minor ferro mag minerals (5%). Likely more specifically a diorite or quartz diorite in composition. Although upper contact defined specifically at 209.35 it appears intrusive was engulfing wall rock for a least half a meter above contact; sort of transitional brecciated zone. There is a similar situation for lower contact as well. Lots of intrusive breccia fragments present in this transition zone. This unit is of moderate hardness, and it is non magnetic. The unit has weak HCL reaction. Sulphide content estimated at trace. No significant veining observed. No major structure noted in unit, some fractures at 40 deg to CA. Very competent unit with 100% recovery and excellent RQD. Within unit there was a raft of volcanic material noted from 210.5 to 211.5. Transitional contact with brecciation from 217 to 217.5.						
					855212	209.35	210.00	0.65	< 0.005	
					855213	210.00	211.00	1.00	< 0.005	
					855214	211.00	212.00	1.00	< 0.005	
					855215	212.00	213.00	1.00	< 0.005	
					855216	213.00	214.00	1.00	< 0.005	
					855217	214.00	215.00	1.00	< 0.005	
					855218	215.00	216.00	1.00	< 0.005	
					855219	216.00	217.00	1.00	< 0.005	
					855220	storeas221			1.031	
					855221	217.00	217.50	0.50	< 0.005	
217.50	238.90	Mafic Flow Breccia	2FB	at 217.50 to 236.25						
				This unit is similar to previous flow breccia intervals, again this unit thought to be some sort of debris flow. The unit is comprised of a wide spectrum of lithological types ranging from felsic to ultramafic (fushitic fragments) and both volcanic and intrusive. The fragments range in size from a few mm to about 10 cm across. The are subangular for the most part there are some subrounded fragments as well. The matrix material appears fine grained but there is very little matrix as the unit is dominated by fragments. The unit is very competent with 100% recovery and an excellent RQD. No major structure observed, a few minor slips again noted at at 20 deg to CA. in general and a few fractures at 45-50 deg to CA. Rare quartz veinlet noted at 226.55, other than this no significant veining. The unit is of variable hardness but in general moderate hardness as it can be scratched with a knife. Weak to moderate HCL reaction and unit is non magnetic. A few small felsic dykes						
					855222	217.50	218.00	0.50	< 0.005	
					855223	218.00	219.00	1.00	< 0.005	
					855224	219.00	220.50	1.50	< 0.005	
					855225	220.50	222.00	1.50	< 0.005	
					855226	222.00	223.50	1.50	< 0.005	
					855227	223.50	225.00	1.50	< 0.005	
					855228	225.00	226.00	1.00	< 0.005	
					855229	226.00	227.00	1.00	0.005	
					855230	blank			< 0.005	
					855231	227.00	228.00	1.00	< 0.005	
					855232	228.00	229.50	1.50	< 0.005	
					855233	229.50	231.00	1.50	< 0.005	
					855234	231.00	232.00	1.00	< 0.005	
					855235	232.00	233.30	1.30	0.005	
					855236	233.30	234.25	0.95	< 0.005	
					855237	234.25	235.00	0.75	< 0.005	
					855238	235.00	236.00	1.00	< 0.005	
					855239	236.00	237.00	1.00	< 0.005	

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
				noted in interval similar in composition just described above.	855240	237.00	237.55	0.55	< 0.005	
				Largest of the dykes noted from 233.30-234.25. Note,	855241	237.55	237.85	0.30	< 0.005	
				in latter portion of unit a small felsic dyke present again from	855242	237.85	238.40	0.55	< 0.005	
				237.23 to 237.65 and immediately below this dyke a grey	855243	238.40	238.90	0.50	< 0.005	
				white quartz vein noted from 237.65-237.8 m. Upper contact						
				of dyke with 2FB at 30 deg to CA. and lower contact of dyke						
				with small vein at 60 deg to CA. Lower contact of main 2FB						
				unit with quartz vein below at 20 deg to CA,						
238.90	239.75	Qtz/Ankerite/ Qtz Calcite Vein	Qav / Qcv	This is a smoky grey to white colored vein. White ankerite	855244	238.90	239.75	0.85	< 0.005	
				noted in vein but vein also react to HCL. Very minor cubic						
				pyrite noted. Vein contains about 10-15% wall rock within						
				it. Lower contact associated with slip plane at 20 deg to CA						
239.75	240.35	Felsic intrusive	7U	This particular dyke appears chilled and quartz eyes	855245	storeas221			1.047	
				present but more difficult to find. Primarily composed of	855246	239.75	240.35	0.60	< 0.005	
				feldspar, quartz and very minor ferro mag minerals. Some						
				brecciated volcanic wall rock noted within dyke. Some						
				weak shear fabric in dyke at 20 deg to CA. Unit is non						
				magnetic and has weak to non existant HCL reaction. Weak						
				sericitic alteration noted giving a bleached greenish color.						
				No significant mineralization observed. Lower contact						
				at 15 deg to CA.						
240.35	240.55	Qtz Ankerite/ Qtz Calcite Vein	Qav / Qcv	As per vein above from 238.90 to 239.75. Minor cubic pyrite	855247	240.35	240.55	0.20	0.008	
				observed in vein. Lower contact at 40 deg to CA assoc.						
				with slip plane.						
240.55	241.75	Mafic Flow Breccia	2FB	as per description from 217.50-238.90. Lower contact on	855248	240.55	241.75	1.20	< 0.005	
				this unit at 20 deg to CA.						
241.75	249.10	Felsic intrusive	7U	This is again a felsic dyke unit comprised mainly of feldspar,	855249	241.75	243.00	1.25	< 0.005	
				quartz, and minor ferro mag minerals. There is considerable	855250	243.00	244.00	1.00	< 0.005	
				amount of wall rock within this dyke and in some areas	855251	244.00	245.00	1.00	< 0.005	
				it is a hybrid mix proximal to the actual rafts of volcanic. The	855252	245.00	246.00	1.00	< 0.005	
				volcanic material is predominantly the mafic flow breccia	855253	246.00	247.00	1.00	< 0.005	
				described in this hole above. When the dyke is fresh one	855254	247.00	248.00	1.00	< 0.005	
				can observe sub rounded quartz eyes typical of this unit.	855255	blank			< 0.005	
				More specifically the areas with volcanic rafts are at 246 to	855256	248.00	249.10	1.10	< 0.005	
				246.40 and 247.65-247.85. A mixed zone with brecciation						
				and both volcanic and felsic intrusive material is present						
				from 243-244.60. Similarly another mixed zone from 246.40						
				to 247. The main felsic dyke where not mixed or assoc.						
				with wall rock has distinct subrounded albeit small quartz						
				eyes giving a poorly developed porphyritic texture. The						
				felsic intrusive is weak to moderately sericite altered and						

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)	
				has a bleached greenish color. Both the volcanic rafts and the felsic intrusive are non magnetic and both also have a weak to non existant reaction to HCl. Very sparse pyrite noted in this section trace pyrite. Both units of moderate hardness. The entire interval is very competent with good recovery (100%) and a good RQD. A number of slips are present and these are generally at 20 deg to CA. The lower contact of this unit at 20 deg to CA and assoc with a slip plane.							
249.10	253.05	Mafic Flow Breccia	2FB	This unit similar to 2FB units described previously. The unit contains numerous sub angular to sub rounded fragments of various lithological types including a number of fushitic fragments. Locally there is a weak shear fabric noted in the unit at 30 deg to CA, some of the fragments are stretched in this orientation. Overall a very competent unit with 100% recovery and an excellent RQD. The unit has a few fractures at 60 deg to CA in general and there are a number of slip oriented at 20 deg to CA. The unit is of moderate hardness, it is non magnetic and has a weak to moderate response to HCL. Traces of pyrite noted within this unit. Note, this unit has fragement of felsic i intrusive within it and some small felsic intrusive dykes as well. It is possible that this intrval represents a large raft within a larger intrusive unit. The unit is generally light grey in color but varies due to fragments Very little matrix material as dominantly made up of fragments. Lower contact of this unit at 40 deg to CA along a small fault with gouge, fault only a mm or two wide.	855257	249.10	250.00	0.90	< 0.005		
					855258	250.00	251.00	1.00	< 0.005		
					855259	251.00	252.00	1.00	< 0.005		
					855260	252.00	253.05	1.05	< 0.005		
253.05	257.85	Felsic Intrusive	7U	This is a fine to medium grained felsic intrusive. There are more localized sections with sub rounded quartz eyes but these are not numerous; in any event this is a poorly developed porphyritic texture. The unit is made up up feldspar, quartz and minor ferro mag minerarals. There is a distinct weak to moderate shear fabric throughout the unit and it is oriented at about 45 deg to CA. The unit in very competent with 100% recovery and an excellent RQD. There are a number of slips at 45 deg to CA as well. Some very minor quartz calcite stringers noted at 80 deg to CA crosscutting fabric and some parallel to fabric but overall these likely do not make up more than 1-2% of unit. There is some pyrite generally disseminated pyrite that is patchy and overall makes up <1/2% of unit. The unit is a light greenish color as there is some sericite alteration of the unit weak sericite alteration. The unit is soft to moderate with	855261	253.05	254.00	0.95	< 0.005		
					855262	254.00	255.00	1.00	< 0.005		
					855263	255.00	256.00	1.00	< 0.005		
					855264	256.00	257.00	1.00	< 0.005		
					855265	257.00	257.85	0.85	< 0.005		

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
				respect to hardness. The unit is considered fine to medium grained and it is non magnetic. It has a variable HCl						
				contact of the unit is sharp and at 40 deg to CA.						
257.85	262.40	MaficVolcanic (Leucoxene)	2U	This is a dark grey unit that is fine to medium grained and it contains numerous well developed skeletal leucoxenes throughout. The unit is of moderate hardness and can be scratched with a knife. It is non magnetic and it has a moderate reaction to HCL. Sulphie minralization is trace to	855266	257.85	259.00	1.15	< 0.005	
				non existant. A few wispy quartz calcite stringers noted and a small vein of quartz calcite noted from 260.75 to 260.87 with two specks of visible gold. Upper contact of vein at 20 deg to CA. This is a competent interval with 100% recovery and excellent RQD. No major structure observed but there are a few small slip planes at 20 det to CA and a few fractures generally at 40 deg to CA. A few small felsic intrusive dykes noted close to lower contact. Lower contact at 20 deg to CA.	855267	259.00	260.20	1.20	< 0.005	
					855268	260.20	260.70	0.50	< 0.005	
					855269	260.70	261.00	0.30	< 0.005	0.48
					855270	storesas221			1.021	
					855271	261.00	261.50	0.50	< 0.005	
					855272	261.50	262.00	0.50	< 0.005	
					855273	262.00	262.40	0.40	< 0.005	
262.40	264.55	Felsic Intrusive	7U	This dyke basically as descried above from 253.05 to 257.85. This particular interval does not have any significant mineralization or structure. It is still has moderate to weak sericitic alteration and lower contact has a quartz calcite vein associated with it from 264.45 to 264.55, lower contact at 20 deg to CA in association with a slip plane. A few of thses slip planes at 20 deg present in this unit. Overall recovery in this unit 100% and RQD very good.	855274	262.40	263.40	1.00	< 0.005	
					855275	263.40	264.00	0.60	< 0.005	
					855276	264.00	264.55	0.55	0.005	
264.55	280.40	MaficVolcanic (Leucoxene)	2U	Again a dark grey unit that is medium to fine grained with numerous well developed skeletal leucoxenes present throughout unit. The unit is of moderate hardness and can be scratched with knife. It has a modrate to strong HCL reaction and the unit is non magnetic. No significant mineralization observed but there are a number of tiny quartz calcite stringers at 20 and 40 deg to CA; these appear to follow orination of slips and fractures in this unit respectively. These stringers and occassional small veinlet estimated to make up about 3-5% of unit. This unit is very competent with 100% recovery and excellent RQD. There was no major structure observed other than at the contact which is marked by a small but distinctive fault with gouge (2 cm) and a small quartz vein. The contact is at 55 deg to CA.	855277	264.55	265.00	0.45	0.005	
					855278	265.00	266.00	1.00	< 0.005	
					855279	266.00	267.00	1.00	< 0.005	
					855280	blank			< 0.005	
					855281	267.00	268.00	1.00	0.008	
					855282	268.00	269.00	1.00	< 0.005	
					855283	269.00	270.00	1.00	< 0.005	
					855284	270.00	271.00	1.00	< 0.005	
					855285	271.00	272.00	1.00	< 0.005	
					855286	272.00	273.00	1.00	< 0.005	
					855287	273.00	274.00	1.00	< 0.005	
					855288	274.00	275.00	1.00	< 0.005	
					855289	275.00	276.00	1.00	< 0.005	
					855290	276.00	277.00	1.00	< 0.005	
					855291	277.00	278.05	1.05	< 0.005	

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
280.40	322.90	Felsic Intrusive	7U	at 286.40 to 301.50	855292	278.05	279.00	0.95	< 0.005	
				This section of felsic intrusive is thought to be the main	855293	279.00	280.00	1.00	0.005	
				targeted "porphyry intrusive" unit. It is much like the	855294	280.00	280.40	0.40	< 0.005	
				previously described felsic intrusive porphyritic intrusives	855295	storeas221			1.073	
				in this hole. This particular interval of the unit is medium	855296	280.40	281.00	0.60	0.007	
				grained and made up of subrounded quartz eyes, feldspar	855297	281.00	282.00	1.00	< 0.005	
				and minor ferro mag minerals. Likely a quartz diorite in	855298	282.00	283.00	1.00	< 0.005	
				composition. The unit is light green in color as the unit is	855299	283.00	284.00	1.00	< 0.005	
				pervasively sericite altered. The unit has a trace of pyrite	855300	284.00	285.00	1.00	< 0.005	
				overall at best; there are a number of small quartz calcite	855301	285.00	286.00	1.00	< 0.005	
				stringers infilling fractures and slips. These are estimated	855302	286.00	287.00	1.00	< 0.005	
					855303	287.00	288.00	1.00	< 0.005	
280.40	322.90	Felsic Intrusive	7U		855304	288.00	289.00	1.00	0.013	
		(continued)		to make up 2% of unit, they may occasionally have some	855305	blank			< 0.005	
				pyrite associated with them. The unit is of mod. Hardness	855306	289.00	290.00	1.00	< 0.005	
				and can be scratched with a knife with a little effort. The	855307	290.00	291.00	1.00	< 0.005	
				unit is non magnetic and has a weak HCL reaction. The unit	855308	291.00	292.00	1.00	< 0.005	
				is relatively competent with 100% recovery and good RQD.	855309	292.00	293.00	1.00	< 0.005	
				There are a number of slips at 20 deg in general to CA	855310	293.00	294.00	1.00	< 0.005	
				and these are particularly prominent from 291.5 to 301.5	855311	294.00	295.00	1.00	< 0.005	
				and there is some weak shear fabric present from 297 to	855312	295.00	296.00	1.00	< 0.005	
				301.50. There are also a set of fractures in unit that are	855313	296.00	297.00	1.00	< 0.005	
				generally at 40 deg to CA.	855314	297.00	298.00	1.00	< 0.005	
					855315	298.00	299.00	1.00	< 0.005	
				at 301.50 to 322.85	855316	299.00	300.00	1.00	< 0.005	
				This interval is a continuation of felsic intrusive described	855317	300.00	301.00	1.00	< 0.005	
				above. Again this section is medium grained, light green in	855318	301.00	302.00	1.00	< 0.005	
				color to 318.10, bleached white beyond 318.10. The light	855319	302.00	303.00	1.00	< 0.005	
				green color is due to pervasive moderate sericitic alteration.	855320	storeas221			1.065	
				This section has a trace of pyrite and a few quartz calcite	855321	303.00	304.00	1.00	< 0.005	
				stringers which are very minor. Interval is non magnetic and	855322	304.00	305.00	1.00	< 0.005	
				a weak to moderate HCL reaction noted. The unit is of	855323	305.00	306.00	1.00	< 0.005	
				moderate hardness. This interval is very competent with	855324	306.00	307.00	1.00	< 0.005	
				with 100% core recovery and a good RQD. There is a small	855325	307.00	308.00	1.00	0.005	
				broken blocky section associated with a minor fault at 20	855326	308.00	309.00	1.00	< 0.005	
				deg to CA from 306.3-306.8 m. and small healed fault with	855327	309.00	310.00	1.00	< 0.005	
				quartz and some gouge from 313.40 to 314.70 also at 20	855328	310.00	311.00	1.00	< 0.005	
				deg to CA. The unit has a number of small slip throughout at	855329	311.00	312.00	1.00	< 0.005	
				20 deg to CA in general. Also within unit a series of	855330	blank			< 0.005	
				fractures generally at 40 deg to CA. A very weak shear	855331	312.00	313.00	1.00	< 0.005	
				fabric from 312 to 314 m associated with fault mentioned	855332	313.00	314.00	1.00	< 0.005	
				previously. A raft of leucoxene volcanic wall rock noted	855333	314.00	315.00	1.00	< 0.005	
				at 316-316.8. From 318.10 to lower contact unit is very	855334	315.00	316.00	1.00	< 0.005	
				bleached with a few unbleached intervals. Sharp lower	855335	316.00	317.00	1.00	< 0.005	
				contact oriented at 30 degrees to core axis. A small	855336	317.00	318.10	1.10	< 0.005	
				stringer of pyrite on contact line which is basically a slip	855337	318.10	319.00	0.90	< 0.005	

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
				plane.	855338	319.00	320.00	1.00	< 0.005	
					855339	320.00	321.00	1.00	< 0.005	
322.90	390.75	MaficVolcanic (Leucoxene)	2U	at 322.90 to 345.00 m.	855340	321.00	322.00	1.00	< 0.005	
				This initial section of this unit is fine to medium grained and	855341	322.00	322.90	0.90	< 0.005	
				grey black in color. It has numerous skeletal leucoxenes	855342	322.90	324.00	1.10	< 0.005	
				throughout it. An exception to this is a short interval from	855343	324.00	325.00	1.00	< 0.005	
				325 to 326.3 where there is a section with hyaloclastite	855344	325.00	326.00	1.00	0.009	
				and some brecciation. The end of the interval is marked	855345	storeas221			1.033	
				with a quartz ankerite vein from 326.08 to 326.23. This	855346	326.00	326.35	0.35	< 0.005	
				quartz ankerite vein has had multiple injections marked	855347	326.35	327.00	0.65	< 0.005	
				by chlorite partings and black hard tourmaline.	855348	327.00	328.00	1.00	< 0.005	
322.90	390.75	MaficVolcanic (Leucoxene) continued	2U	The unit has small stringers and clots of quartz calcite often	855349	328.00	329.00	1.00	< 0.005	
				associated with pyrite. These stringers make up about 3-4	855350	329.00	330.00	1.00	< 0.005	
				percent of this section. Pyrite content overall estimated at	855351	330.00	331.00	1.00	< 0.005	
				trace to 1/2%. The unit has a strong reaction to HCL and	855352	331.00	332.00	1.00	0.005	
				it is non magnetic. Stringers of quartz calcite often follow	855353	332.00	333.00	1.00	< 0.005	
				orientation of slips and fractures which are generally at 30	855354	333.00	334.00	1.00	< 0.005	
				and 50 deg to CA respectively. A very weak shear fabric	855355	blank			< 0.005	
				evident from 339.5 to 343.80 at 30 deg to CA. This is a	855356	334.00	335.00	1.00	< 0.005	
				very competent interval with 100% core recovery and a	855357	335.00	336.00	1.00	< 0.005	
				good RQD. The unit is of moderate hardness.	855358	336.00	337.00	1.00	< 0.005	
					855359	337.00	338.00	1.00	< 0.005	
				at 345.00 to 362.40	855360	338.00	339.00	1.00	< 0.005	
				This is a continuation of fine to medium grained leucoxene	855361	339.00	340.00	1.00	< 0.005	
				bearing mafic volcanic described above. This particular	855362	340.00	341.00	1.00	< 0.005	
				interval is non magnetic except for a strongly magnetic	855363	341.00	342.00	1.00	< 0.005	
				section from 356.6 to 360.10. The unit has a strong reaction	855364	342.00	343.00	1.00	< 0.005	
				to HCL. There are a number of quartz calcite stringers and	855365	343.00	344.00	1.00	< 0.005	
				veinlets particularly between 345-352 meter where they	855366	344.00	345.00	1.00	< 0.005	
				make up about 3-4% of unit. Below 352 these stringers of	855367	345.00	346.00	1.00	< 0.005	
				quartz calcite are sparse. Pyrite is noted in the unit but it	855368	346.00	347.00	1.00	< 0.005	
				is again minor and makes up trace to 1/2% overall. This unit	855369	347.00	348.00	1.00	< 0.005	
				is again of moderate hardness and can be scratched with	855370	storeas221			1.04	
				a knife. This is a competent section again with 100% core	855371	348.00	348.67	0.67	< 0.005	
				recovery and excellent RQD. A number of fractures noted	855372	348.67	349.00	0.33	< 0.005	
				generally at 40 deg to CA and occasional minor slip planes	855373	349.00	350.00	1.00	< 0.005	
				at 20 deg to CA. From about 357.5 to 362.40 there is an	855374	350.00	351.00	1.00	< 0.005	
				alignment of minerals giving it a weak shear fabric or	855375	351.00	352.00	1.00	< 0.005	
				schistosity at 50 deg to CA. A few quartz calcite stringers	855376	352.00	353.00	1.00	< 0.005	
				note here with 50 deg to CA orientation as well	855377	353.00	354.00	1.00	< 0.005	
					855378	354.00	355.00	1.00	< 0.005	
					855379	355.00	355.30	0.30	< 0.005	
					855380	blank			< 0.005	
					855381	355.30	356.00	0.70	< 0.005	

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
					855382	356.00	356.60	0.60	< 0.005	
					855383	356.60	357.00	0.40	< 0.005	
					855384	357.00	358.00	1.00	< 0.005	
					855385	358.00	359.00	1.00	< 0.005	
					855386	359.00	360.10	1.10	< 0.005	
					855387	360.10	361.00	0.90	< 0.005	
					855388	361.00	362.00	1.00	< 0.005	
					855389	362.00	363.00	1.00	< 0.005	
					855390	363.00	364.00	1.00	< 0.005	
					855391	364.00	365.00	1.00	< 0.005	
					855392	365.00	366.00	1.00	< 0.005	
					855393	366.00	367.00	1.00	< 0.005	
322.90	390.75	MaficVolcanic (Leucoxene) continued	2U	at 362.40 to 390.75 This is a continuation of leucoxene bearing mafic volcanic unit. As per intervals above the unit is a medium grained grey black colored unit. It is of moderate hardness. Very rare localized magnetic response in actual volcanic but small quartz calcite veins are magnetic such as at 378.5 and 379 meters. Some fine sulphide in these small veins/stringers likely pyrrhotite. Strong response to HCL. Noted that ferro mag minerals are extremely chlorite altered as well. The majority of this section has analignment of minerals giving is a weakly sheared or scistose appearance. This fabric is oriented at 35-40 deg to CA in general. Fractures, slip planes, and quartz calcite stringers/veinlets generally conform to this orientation as well. Note, quartz calcite stringers and veinlets only make up about 2% of this unit. Sulphides mainly pyrite is found disseminated in the unit itself and there it trace to 1/2% maximum. This unit is considered to be a very competent interval with 100% recovery and a good RQD. Lower contact at 45 deg to CA in association with a 2-3 cm quartz calcite vein	855394	367.00	368.00	1.00	< 0.005	
					855395	stores221			1.038	
					855396	368.00	369.00	1.00	< 0.005	
					855397	369.00	370.00	1.00	< 0.005	
					855398	370.00	371.00	1.00	< 0.005	
					855399	371.00	372.00	1.00	< 0.005	
					855400	372.00	373.00	1.00	< 0.005	
					855401	373.00	374.00	1.00	< 0.005	
					855402	374.00	375.00	1.00	< 0.005	
					855403	375.00	376.00	1.00	< 0.005	
					855404	376.00	377.00	1.00	< 0.005	
					855405	blank			< 0.005	
					855406	377.00	378.00	1.00	< 0.005	
					855407	378.00	378.60	0.60	< 0.005	
					855408	378.60	379.00	0.40	< 0.005	
					855409	379.00	380.00	1.00	< 0.005	
					855410	380.00	381.00	1.00	< 0.005	
					855411	381.00	382.50	1.50	< 0.005	
					855412	382.50	384.00	1.50	< 0.005	
					855413	384.00	385.50	1.50	< 0.005	
					855414	385.50	387.00	1.50	< 0.005	
					855415	387.00	388.50	1.50	< 0.005	
					855416	388.50	390.00	1.50	< 0.005	
					855417	390.00	390.75	0.75	< 0.005	
390.75	407.00	Mafic Volcanic	2U	This a very fine grained, grey colored, massive, unaltered mafic volcanic with no major structure observed. It has a strong reaction to HCL and it is locally strongly magnetic. There are a number of quartz calcite stringers and veinlets in the unit, these make up about 3% of the unit. They are note at various orinetations ranging from su b parallel to CA to 85 deg to CA as well.They occasionally have some	855418	390.75	392.00	1.25	< 0.005	
					855419	392.00	393.00	1.00	< 0.005	
					855420	stores221			1.024	
					855421	393.00	394.50	1.50	< 0.005	
					855422	394.50	396.00	1.50	< 0.005	
					855423	396.00	397.50	1.50	< 0.005	
					855424	397.50	399.00	1.50	< 0.005	

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
				pyrite mineralization associated with them. Overall the entire	855425	399.00	400.50	1.50	< 0.005	
				unit is estimated to have only trace to 1/2% pyrite total. This	855426	400.50	402.00	1.50	< 0.005	
				in a very competent unit with 100% core recovery and an	855427	402.00	403.50	1.50	0.005	
				excellent RQD. A few fractures observed and these are	855428	403.50	405.00	1.50	< 0.005	
				generally at 45 and 80 deg to CA. Lower contact with unit	855429	405.00	406.00	1.00	< 0.005	
				below gradational as becoming coarser in grain size and	855430	blank			< 0.005	
				start of leucoxenes.	855431	406.00	407.00	1.00	< 0.005	
407.00	476.75	MaficVolcanic (Leucoxene)	2U	at 407 to 427.10	855432	407.00	408.00	1.00	< 0.005	
				Very similar to leucoxene bearing mafic volcanics	855433	408.00	409.00	1.00	< 0.005	
				described previously. This interval is darker grey in color	855434	409.00	410.00	1.00	< 0.005	
				and more medium grained. Numerous distinctive skeletal	855435	410.00	411.00	1.00	< 0.005	
				leucoxene throughout unit. Unit considered moderate to soft	855436	411.00	412.00	1.00	< 0.005	
				with respect to hardness. Ferro mag minerals appear						
407.00	476.75	MaficVolcanic (Leucoxene)	2U	altered to chlorite for the most part. Unit has weak patchy	855437	412.00	413.00	1.00	< 0.005	
				fabric more like a weak schistosity or poorly developed	855438	413.00	414.00	1.00	< 0.005	
				shear fabric. In general where this is present the orientation	855439	414.00	415.00	1.00	0.006	
				of fabric at 20-30 deg to CA. This unit is a competent	855440	415.00	416.00	1.00	< 0.005	
				interval with 100% core recovery and a good RQD. The unit	855441	416.00	417.00	1.00	< 0.005	
				is locally magnetic over short patchy intervals of a few cm	855442	417.00	418.00	1.00	< 0.005	
				to about 0.5 m or so. The unit also has a strong HCL	855443	418.00	419.00	1.00	< 0.005	
				reaction. Throughout unit there are numerous quartz	855444	419.00	420.00	1.00	< 0.005	
				calcite stringers and veinlets sometimes mineralized with	855445	storeas221			1.005	
				pyrite. These stringers and veinlets appear to have some	855446	420.00	421.00	1.00	< 0.005	
				minor ankerite as well but predominantly quartz calcite. The	855447	421.00	422.00	1.00	< 0.005	
				quartz calcite stringers make up about 5% of the unit and	855448	422.00	423.00	1.00	< 0.005	
				they are in various orientations ranging from sub parallel to	855449	423.00	424.00	1.00	< 0.005	
				CA to 40 deg to CA. Those at 40 deg to CA follow the	855450	424.00	425.00	1.00	0.006	
				predominant fracture set in this unit. There are also a	855451	425.00	426.00	1.00	0.005	
				few slips generally at 20 deg to CA in this unit, these are	855452	426.00	427.10	1.10	0.007	
				often associated with a quartz calcite stringer. This unit is						
				estimated to have trace to 1/2% pyrite overall including						
				pyrite within veins.						
				at 427.10 to 446.0	855453	427.10	427.50	0.40	< 0.005	
				Continuation of grey colored medium grained leucoxene	855454	427.50	428.00	0.50	< 0.005	
				bearing mafic volcanic. Leucoxenes very pronounced in	855455	blank			< 0.005	
				this interval from 435-442 meters. Again a very competent	855456	428.00	429.00	1.00	< 0.005	
				section with 100% core recovery and good RQD. Locally	855457	429.00	430.50	1.50	< 0.005	
				within this section some alignment of minerals or weak	855458	430.50	432.00	1.50	< 0.005	
				schistosity or poorly developed shear fabric, this is	855459	432.00	433.00	1.00	< 0.005	
				localized and generally at 30 deg to CA. A few minor slips	855460	433.00	434.00	1.00	< 0.005	
				noted again at 30 deg to CA. Some fractures noted as well	855461	434.00	435.00	1.00	0.005	
				and these are generally at 45 deg to CA. Estimate of 3%	855462	435.00	436.50	1.50	0.008	
				quartz calcite stringers and small veinlets within unit	855463	436.50	438.00	1.50	< 0.005	

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
				ranging in orientation from sub parallel to CA to 45 deg to CA	855464	438.00	439.50	1.50	< 0.005	
				as stringers and veinlets often associated with slips and	855465	439.50	441.00	1.50	< 0.005	
				fractures. Sometimes some pyrite noted in quartz calcite	855466	441.00	442.50	1.50	< 0.005	
				stringers & veinlets. Overall this interval estimated to trace	855467	442.50	444.00	1.50	< 0.005	
				to 1/2% pyrite overall. This unit is of moderate hardness	855468	444.00	445.00	1.00	0.005	
				overall with softer sections where ferro mag minerals	855469	445.00	445.60	0.60	0.352	0.37
				altered to chlorite. The unit has a weak to moderate HCL	855470	storeas221			1.049	
				reaction. Basically unit is non magnetic but a few localized	855471	445.60	446.00	0.40	0.014	
				weak responses noted. Between this interval and next	855472	446.00	447.50	1.50	0.175	
				a 40 cm section of banded mafic tuff with a small quartz						
				vein stringers if hard black mineral possibly tourmaline						
				from 445.9 to 445.97.						
407.00	476.75	MaficVolcanic (Leucoxene) continued	2U	at 446 to 462						
				This is still a leucoxene bearing mafic volcanic except						
				this interval is distinctly a finer grained mafic flow with	855473	447.50	450.00	1.50	0.036	
				occasional section that is fine to medium grained. It is	855474	450.00	451.50	1.50	0.153	
				a light grey color. Leucoxenes not as well formed but	855475	451.50	453.00	1.50	< 0.005	
				still evident with hand lense. Numerous stringers and	855476	453.00	454.50	1.50	0.005	
				veinlets as well as clots of quartz calcite noted, these make	855477	454.50	456.00	1.50	< 0.005	
				up about 4-5% of interval. They are often associated with	855478	456.00	457.50	1.50	< 0.005	
				slips and fractures present in the unit. Fractures noted at 40	855479	457.50	459.00	1.50	< 0.005	
				deg to CA and slips range from 20-30 deg to CA. Again	855480	blank			< 0.005	
				this section a very competent section with 100% recovery	855481	459.00	460.50	1.50	< 0.005	
				and good RQD. This unit is of moderate hardness and it is	855482	460.50	462.00	1.50	< 0.005	
				non magnetic and it has a strong HCL reaction. This	855483	462.00	463.50	1.50	< 0.005	
				section still only as trace to 1/2% pyrite. The contact with	855484	463.50	465.00	1.50	< 0.005	
				the more coarser grained leucoxene bearing interval below	855485	465.00	466.50	1.50	< 0.005	
				is gradational.						
				at 462.00 to 476.75						
				This is a darker grey colored more medium grained section	855486	466.50	468.00	1.50	< 0.005	
				of leucoxene bearing mafic volcanic. Leucoxenes are	855487	468.00	469.50	1.50	0.017	
				more distinctive and larger in this section. This unit is	855488	469.50	470.50	1.00	0.021	
				competent interval with 100% core recovery and a good	855489	470.50	471.00	0.50	0.013	
				RQD. Fracture and slip orientation as per interval	855490	471.00	471.50	0.50	0.688	0.90
				described immediately above. Still a fair number of quartz	855491	471.50	472.25	0.75	4.754	
				calcite stringers & small veinlets; these make up about 4%	855492	472.25	473.00	0.75	0.041	
				of unit. Unit is non magnetic and has a strong HCL response	855493	473.00	474.00	1.00	0.021	
				Trace pyrite present in unit as well, and it is of moderate	855494	474.00	475.00	1.00	0.019	
				hardness with some softer sections where ferro mag	855495	storeas221			0.997	
				minerals altered to chlorite. Note, distinct increase in quartz	855496	475.00	476.00	1.00	0.01	
				calcite veining from 471-472.36 (30% of this interval).	855497	476.00	476.75	0.75	0.009	

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
				Within a formation interval up to 5% fine pyrite stringers within veins. Lower contact is sharp along a slip with a small quartz vein at 50 deg to CA.						
476.75	479.95	Pillowed Mafic Volcanic	2P	Initially about 25 cm of hyaloclastite after contact and a series of bands of vesicles 10-20 or so cm across thought to represent pillow salvages. The unit is a light greenish color overall and the unit is fine grained. It has a distinctive shear fabric to it exemplified by the stretched varioles on salvages. In general the shear fabric oriented at 40 deg to CA. This unit is soft and there is a lot of strong chloritic alteration of the unit. The unit has a strong to moderate reaction to HCL. It is non magnetic. There is some local stringers of pyrite but overall trace pyrite. Towards lower contact a few stringers of quartz calcite for about 25 cm above contact with some pyrite mineralization, last meter	855498 855499 855500	476.75 478.00 479.00	478.00 479.00 479.95	1.25 1.00 0.95	0.011 0.01 0.061	
476.75	479.95	Pillowed Mafic Volcanic (continued)	2P	also has a few pyrite stringers as well; perhaps 2% pyrite in last meter. This unit is very competent with 100% recovery and good RQD. A few slip planes noted at 40 deg to CA or parallel with fabric. Lower contact at 30 deg to CA.						
479.95	482.75	Quartz Vein	Qv	This section is thought to represent a large quartz vein with large rafts of volcanic caught up within it. The vein is mainly quartz with a weak to moderate HL reaction and thus some calcite. The vein section are well mineralized with 7% fine pyrite clots and stringers. These stringers are conductive when tested with ohm meter. Wall rock material within the vein is basically the pillowed mafic just described above. These volcanic rafts have some minor stringers of quartz calcite and some pyrite but both are fairly minor. The actual details of the vein area and wall rock are as follows: 479.95 to 480.35- Vein 480.38 to 480.75- Volcanic wall rock. 480.75 to 481.10-Vein 481.10 to 482.40- Volcanic wall rock 482.40 to 482.75- Vein Lower contact with vein and volcanics below is at 30 deg to CA along slip plane	855501 855502 855503 855504 855505 855506 855507	479.95 480.38 480.75 481.10 blank 481.60 482.40	480.38 480.75 481.60 482.40 482.75	0.43 0.37 0.35 0.50 0.80 0.35	0.831 0.082 0.885 0.045 0.005 0.019 0.091	0.66 0.92
482.75	486.70	MaficVolcanic (Leucoxene)	2U	This is a short interval of leucoxene bearing mafic volcanic that initially is extremely bleached below vein from 482.75 to 483.65 and well mineralized with numerous stringers of pyrite that conduct with ohm meter, estimate	855508 855509 855510 855511	482.75 483.65 484.50 485.00	483.65 484.50 485.00 486.00	0.90 0.85 0.50 1.00	0.089 0.02 0.009 0.032	

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
				of about 7% pyrite in this 0.9 meter section. Below 483.65	855512	486.00	486.70	0.70	0.01	
				to 485.07 distinct leucoxenes present in grey colored						
				unit of moderate hardness. The unaltered section reacts						
				to HCL and is non magnetic. The unaltered interval has trace						
				of pyrite generally associated with a few quartz calcite						
				stringers. This unit in general has good RQD and 100%						
				core recovery and there was no major structure or fabric						
				observed in this section. From about 485 to 486 the unit						
				is weak to moderately bleached and again well mineralized						
				with stringers of pyrite. This 485-486m interval contains						
				about 3% pyrite; beyond this section unit becomes l						
				unaltered and a few leucoxenes still noted but become						
				less and less towards lower contact. Lower contact						
				sharp and associated with quartz stringer; orientation at 50						
				deg to CA.						
486.70	522.80	Pillowed Mafic	2P	at 486.70 to 509						
		Volcanic		This unit again thought to be a pillowed mafic volcanic	855513	486.70	487.00	0.30	0.009	
		(continued)		with pillow salvages likely 10-30 cm sections with vesicles.	855514	487.00	488.00	1.00	0.01	
				This unit has a very distinct moderate fabric and/or banded	855515	488.00	489.00	1.00	0.008	
				appearance. In many instances vesicles appear stretched.	855516	489.00	490.00	1.00	0.006	
				In general the shear fabric at about 40 deg to CA. This unit	855517	490.00	491.00	1.00	< 0.005	
				has a few slips generally parallel to shear fabric and a few	855518	491.00	492.00	1.00	< 0.005	
				fractures as well also at about 40 deg to CA. This unit is	855519	492.00	492.50	0.50	< 0.005	
				very competent and has 100% core recovery and a good	855520	stores221			1.032	
				RQD. Unit has a fair number of quartz calcite stringers	855521	492.50	493.00	1.00	0.005	
				and small veinlets cutting across it generally parallel to	855522	493.00	494.00	1.00	0.012	
				fabric but some crosscutting fabric. These stringers and	855523	494.00	495.00	1.00	< 0.005	
				veinlets estimated to make up 5% of unit. In general pyrite	855524	495.00	496.00	1.00	< 0.005	
				relatively sparse trace overall, but some pyrite associated	855525	496.00	497.00	1.00	< 0.005	
				with stringers and veinlets. This unit has a light green color	855526	497.00	498.00	1.00	0.007	
				and is moderate to soft with respect to hardness, some	855527	498.00	498.50	0.50	0.015	
				chloritic alteration present throughout but not necessarily	855528	498.50	499.00	1.00	< 0.005	
				pervasive. The unit is fine grained and it has variable	855529	499.00	500.00	1.00	< 0.005	
				response to HCl weak to strong. The unit is non magnetic.	855530	blank			0.005	
				A vein at 492.3 to 492.43 has an unusual purple hew in	855531	500.00	501.00	1.00	0.005	
				certain sections. Also and unusual section from 504 to 505	855532	501.00	502.00	1.00	0.005	
				meters; this interval has little or no fabric an is massive	855533	502.00	503.00	1.00	0.005	
				in appearance with a number of larger VARIOLES. Some	855534	503.00	504.00	1.00	< 0.005	
				leucoxene noted. Towards lower portion this interval less	855535	504.00	505.00	1.00	< 0.005	
				and less fabric noted and some hyaloclastite at 506.00	855536	505.00	506.00	1.00	< 0.005	
				Within this unit there appear to be some patches of	855537	506.00	507.00	1.00	< 0.005	
				variolitic texture such as from 505 to 506 m.	855538	507.00	508.00	1.00	< 0.005	
					855539	508.00	509.00	1.00	< 0.005	

From	To	Rock Type	Code	Description	Sample#	From	To	Meters	Au g/t	Au g/t (met)
				at 509 to 522.80	855540	509.00	510.00	1.00	0.005	
				This particular interval of pillowed mafic volcanic	855541	510.00	511.00	1.00	< 0.005	
				still has sections of vesicles thought to represent pillow	855542	511.00	512.00	1.00	0.005	
				rims. The unit has less fabric present although a weak	855543	512.00	513.00	1.00	0.005	
				shear fabric noted from about 514 to 517 m, this fabric at	855544	513.00	514.00	1.00	0.005	
				about 30 deg to CA. Sections of this unit over 30 cm or so	855545	storeas221			1.01	
				intervals appear to have some varioles. The unit has a	855546	514.00	515.00	1.00	< 0.005	
				greenish grey color and is fine grained; it is of moderate	855547	515.00	516.00	1.00	< 0.005	
				hardness. The unit has 100% core recovery and a good	855548	516.00	516.50	0.50	< 0.005	
				RQD but there are a number of slips present generally at	855549	516.50	517.00	0.50	< 0.005	
				about 30 deg to CA. Fractures are at about 40 deg to CA	855550	517.00	518.00	1.00	< 0.005	
				in general in this interval. This interval has minor local	855551	518.00	519.00	1.00	< 0.005	
				mineralization, trace to 1/2% overall. There are a few	855552	519.00	520.00	1.00	< 0.005	
				quartz calcite stringers present but these are minor as well	855553	520.00	521.00	1.00	< 0.005	
				and make up maybe 1-2% of unit. Basically a non magnetic	855554	521.00	522.00	1.00	0.006	
				unit with rare instance over less than 10 cm where there	855555	blank			0.008	
				is a magnetic response. The unit is of moderate hardness	855556	522.00	522.80	0.80	0.008	
				and it has a weak to moderate HCL reaction. Within this						
486.70	522.80	Pillowed Mafic Volcanic (continued)	2P	there are some shorth intervals with some hyaloclastite.						
				Slightly softer sections of this unit were observed to be						
				chlorite altered. (alteration of ferro mag minerals)						
				Lower contact associated with a slip plane at 5 deg to CA.						
				Note, this unit distinctly non magnetic and below contact						
				in next unit very strongly magnetic.						
522.80	543.00	Mafic Volcanic (Variolitic)	2VAR	This is a fine grained greenish grey colored unit. This	855557	522.80	524.00	1.20	0.009	
	EOH			section has numerous sections that contain a series of	855558	524.00	525.00	1.00	0.009	
				varioles that sometimes merge into a mass. These varioles	855559	525.00	526.00	1.00	0.007	
				are fairly hard to scratch and sometimes have a weak	855560	526.00	527.00	1.00	0.006	
				HCL reaction. Often between the sections of variolitic	855561	527.00	528.00	1.00	0.006	
				material there are shorter intervals of hyaloclastite. This unit	855562	528.00	529.00	1.00	0.006	
				has some minor shear fabric locally for example between	855563	529.00	530.00	1.00	0.007	
				528-529 where weak shear fabric at 25-30 deg to CA.	855564	530.00	531.00	1.00	< 0.005	
				This unit has 100% core recovery and excellent RQD. Very	855565	531.00	532.00	1.00	< 0.005	
				minimal amount of fractures and slips present. In general	855566	532.00	533.00	1.00	< 0.005	
				minor slip planes in this interval at 30 deg to CA & fractures	855567	533.00	534.00	1.00	< 0.005	
				at 45 deg to CA generally. Variable hardness, sections	855568	534.00	535.00	1.00	< 0.005	
				with hyaloclastite and numerous varioles fairly hard and	855569	535.00	536.00	1.00	< 0.005	
				other sections of ferro mag minerals are altered to chlorite	855570	storeas221			1.021	
				and softer. Pyrite content estimated at 1/2%. Some stringers	855571	536.00	537.00	1.00	< 0.005	
				and disseminated pyrite very localized. Only a few	855572	537.00	538.00	1.00	< 0.005	
				quartz calcite stringers noted; less than 2% of unit overall.	855573	538.00	539.00	1.00	< 0.005	
				The unit has a weak HCL reaction and overall the unit has a	855574	539.00	540.00	1.00	< 0.005	
				very strong magnetic response.	855575	540.00	541.00	1.00	< 0.005	

<i>From</i>	<i>To</i>	<i>Rock Type</i>	<i>Code</i>	<i>Description</i>	<i>Sample#</i>	<i>From</i>	<i>To</i>	<i>Meters</i>	<i>Au g/t</i>	<i>Au g/t (met)</i>
				EOH 543 METERS.	855576	541.00	542.00	1.00	< 0.005	
					855577	542.00	543.00	1.00	< 0.005	
				Notes re down hold surveying:						
				Malfunctioning flex unit after rods pulled and hole completed						
				and thus only original azimuth used and dip tests from down						
				hole as follows:						
				27 meters: -87 deg dip						
				78 meters: -86.7 deg dip						
				129 meters: -85.9 deg dip						
				180 meters: -85.3 deg dip						
				231 meters: -84.9 deg dip						
				282 meters: -84.3 deg dip						
				333 meters: -83.8 deg dip						
				384 meters: -83.6 deg dip						
				435 meters: -83.3 deg dip						
				486 meters: -82.8 deg dip						
				537 meters: -82.1 deg dip						

Appendix 2: Copy of Assay Sheets

Quality Analysis ...



Innovative Technologies

Date Submitted: 15-May-19
Invoice No.: A19-06631
Invoice Date: 27-May-19
Your Reference: Dome West

Pelangio Exploration Inc
1080 Michelano Drive
Timmins Ontario
Canada

ATTN: Kevin Filo

CERTIFICATE OF ANALYSIS

577 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-Timmins g/m t Au - Fire Assay AA

REPORT **A19-06631**

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3.

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé", written over a horizontal line.

Emmanuel Esemé, Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.
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TELEPHONE +705 264-0123 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Timmins@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
855001	0.008
855002	0.008
855003	0.009
855004	0.010
855005	0.008
855006	0.008
855007	0.007
855008	0.007
855009	0.007
855010	0.008
855011	< 0.005
855012	< 0.005
855013	< 0.005
855014	< 0.005
855015	1.099
855016	0.005
855017	< 0.005
855018	0.014
855019	0.011
855020	< 0.005
855021	< 0.005
855022	< 0.005
855023	< 0.005
855024	< 0.005
855025	0.006
855026	0.006
855027	< 0.005
855028	< 0.005
855029	< 0.005
855030	< 0.005
855031	0.005
855032	0.005
855033	0.006
855034	0.006
855035	0.005
855036	0.006
855037	0.005
855038	0.006
855039	0.005
855040	1.096
855041	< 0.005
855042	< 0.005

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
855043	< 0.005
855044	< 0.005
855045	< 0.005
855046	0.007
855047	0.005
855048	< 0.005
855049	< 0.005
855050	< 0.005
855051	< 0.005
855052	< 0.005
855053	< 0.005
855054	< 0.005
855055	< 0.005
855056	< 0.005
855057	< 0.005
855058	< 0.005
855059	< 0.005
855060	< 0.005
855061	< 0.005
855062	< 0.005
855063	< 0.005
855064	< 0.005
855065	1.082
855066	< 0.005
855067	< 0.005
855068	< 0.005
855069	< 0.005
855070	< 0.005
855071	< 0.005
855072	< 0.005
855073	< 0.005
855074	< 0.005
855075	< 0.005
855076	< 0.005
855077	< 0.005
855078	< 0.005
855079	< 0.005
855080	< 0.005
855081	< 0.005
855082	< 0.005
855083	< 0.005
855084	0.006

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
855085	< 0.005
855086	< 0.005
855087	< 0.005
855088	< 0.005
855089	< 0.005
855090	1.071
855091	0.011
855092	< 0.005
855093	< 0.005
855094	< 0.005
855095	< 0.005
855096	< 0.005
855097	< 0.005
855098	< 0.005
855099	< 0.005
855100	0.005
855101	< 0.005
855102	< 0.005
855103	< 0.005
855104	0.005
855105	< 0.005
855106	< 0.005
855107	< 0.005
855108	< 0.005
855109	0.010
855110	0.023
855111	0.006
855112	< 0.005
855113	< 0.005
855114	< 0.005
855115	0.006
855116	0.005
855117	< 0.005
855118	< 0.005
855119	< 0.005
855120	1.084
855121	< 0.005
855122	< 0.005
855123	< 0.005
855124	0.005
855125	< 0.005
855126	< 0.005

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
855127	0.005
855128	< 0.005
855129	< 0.005
855130	< 0.005
855131	< 0.005
855132	< 0.005
855133	< 0.005
855134	< 0.005
855135	< 0.005
855136	< 0.005
855137	< 0.005
855138	< 0.005
855139	< 0.005
855140	1.115
855141	< 0.005
855142	0.005
855143	< 0.005
855144	< 0.005
855145	< 0.005
855146	< 0.005
855147	< 0.005
855148	< 0.005
855149	< 0.005
855150	0.005
855151	< 0.005
855152	0.005
855153	< 0.005
855154	< 0.005
855155	< 0.005
855156	< 0.005
855157	0.006
855158	< 0.005
855159	0.011
855160	0.007
855161	0.005
855162	< 0.005
855163	< 0.005
855164	< 0.005
855165	< 0.005
855166	< 0.005
855167	< 0.005
855168	< 0.005

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
855169	< 0.005
855170	1.086
855171	< 0.005
855172	< 0.005
855173	< 0.005
855174	< 0.005
855175	< 0.005
855176	< 0.005
855177	< 0.005
855178	< 0.005
855179	< 0.005
855180	< 0.005
855181	0.005
855182	< 0.005
855183	< 0.005
855184	< 0.005
855185	< 0.005
855186	< 0.005
855187	< 0.005
855188	0.008
855189	< 0.005
855190	1.167
855191	0.005
855192	< 0.005
855193	< 0.005
855194	< 0.005
855195	< 0.005
855196	0.005
855197	< 0.005
855198	< 0.005
855199	< 0.005
855200	< 0.005
855201	< 0.005
855202	< 0.005
855203	< 0.005
855204	< 0.005
855205	< 0.005
855206	< 0.005
855207	< 0.005
855208	< 0.005
855209	< 0.005
855210	< 0.005

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
855211	0.005
855212	< 0.005
855213	< 0.005
855214	< 0.005
855215	< 0.005
855216	< 0.005
855217	< 0.005
855218	< 0.005
855219	< 0.005
855220	1.031
855221	< 0.005
855222	< 0.005
855223	< 0.005
855224	< 0.005
855225	< 0.005
855226	< 0.005
855227	< 0.005
855228	< 0.005
855229	0.005
855230	< 0.005
855231	< 0.005
855232	< 0.005
855233	< 0.005
855234	< 0.005
855235	0.005
855236	< 0.005
855237	< 0.005
855238	< 0.005
855239	< 0.005
855240	< 0.005
855241	< 0.005
855242	< 0.005
855243	< 0.005
855244	< 0.005
855245	1.047
855246	< 0.005
855247	0.008
855248	< 0.005
855249	< 0.005
855250	< 0.005
855251	< 0.005
855252	< 0.005

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
855253	< 0.005
855254	< 0.005
855255	< 0.005
855256	< 0.005
855257	< 0.005
855258	< 0.005
855259	< 0.005
855260	< 0.005
855261	< 0.005
855262	< 0.005
855263	< 0.005
855264	< 0.005
855265	< 0.005
855266	< 0.005
855267	< 0.005
855268	< 0.005
855269	< 0.005
855270	1.021
855271	< 0.005
855272	< 0.005
855273	< 0.005
855274	< 0.005
855275	< 0.005
855276	0.005
855277	0.005
855278	< 0.005
855279	< 0.005
855280	< 0.005
855281	0.008
855282	< 0.005
855283	< 0.005
855284	< 0.005
855285	< 0.005
855286	< 0.005
855287	< 0.005
855288	< 0.005
855289	< 0.005
855290	< 0.005
855291	< 0.005
855292	< 0.005
855293	0.005
855294	< 0.005

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
855295	1.073
855296	0.007
855297	< 0.005
855298	< 0.005
855299	< 0.005
855300	< 0.005
855301	< 0.005
855302	< 0.005
855303	< 0.005
855304	0.013
855305	< 0.005
855306	< 0.005
855307	< 0.005
855308	< 0.005
855309	< 0.005
855310	< 0.005
855311	< 0.005
855312	< 0.005
855313	< 0.005
855314	< 0.005
855315	< 0.005
855316	< 0.005
855317	< 0.005
855318	< 0.005
855319	< 0.005
855320	1.065
855321	< 0.005
855322	< 0.005
855323	< 0.005
855324	< 0.005
855325	0.005
855326	< 0.005
855327	< 0.005
855328	< 0.005
855329	< 0.005
855330	< 0.005
855331	< 0.005
855332	< 0.005
855333	< 0.005
855334	< 0.005
855335	< 0.005
855336	< 0.005

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
855337	< 0.005
855338	< 0.005
855339	< 0.005
855340	< 0.005
855341	< 0.005
855342	< 0.005
855343	< 0.005
855344	0.009
855345	1.033
855346	< 0.005
855347	< 0.005
855348	< 0.005
855349	< 0.005
855350	< 0.005
855351	< 0.005
855352	0.005
855353	< 0.005
855354	< 0.005
855355	< 0.005
855356	< 0.005
855357	< 0.005
855358	< 0.005
855359	< 0.005
855360	< 0.005
855361	< 0.005
855362	< 0.005
855363	< 0.005
855364	< 0.005
855365	< 0.005
855366	< 0.005
855367	< 0.005
855368	< 0.005
855369	< 0.005
855370	1.040
855371	< 0.005
855372	< 0.005
855373	< 0.005
855374	< 0.005
855375	< 0.005
855376	< 0.005
855377	< 0.005
855378	< 0.005

Analyte Symbol	Au
Unit Symbol	g/ml
Lower Limit	0.005
Method Code	FA-AA
855379	< 0.005
855380	< 0.005
855381	< 0.005
855382	< 0.005
855383	< 0.005
855384	< 0.005
855385	< 0.005
855386	< 0.005
855387	< 0.005
855388	< 0.005
855389	< 0.005
855390	< 0.005
855391	< 0.005
855392	< 0.005
855393	< 0.005
855394	< 0.005
855395	1.038
855396	< 0.005
855397	< 0.005
855398	< 0.005
855399	< 0.005
855400	< 0.005
855401	< 0.005
855402	< 0.005
855403	< 0.005
855404	< 0.005
855405	< 0.005
855406	< 0.005
855407	< 0.005
855408	< 0.005
855409	< 0.005
855410	< 0.005
855411	< 0.005
855412	< 0.005
855413	< 0.005
855414	< 0.005
855415	< 0.005
855416	< 0.005
855417	< 0.005
855418	< 0.005
855419	< 0.005
855420	1.024

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
855421	< 0.005
855422	< 0.005
855423	< 0.005
855424	< 0.005
855425	< 0.005
855426	< 0.005
855427	0.005
855428	< 0.005
855429	< 0.005
855430	< 0.005
855431	< 0.005
855432	< 0.005
855433	< 0.005
855434	< 0.005
855435	< 0.005
855436	< 0.005
855437	< 0.005
855438	< 0.005
855439	0.006
855440	< 0.005
855441	< 0.005
855442	< 0.005
855443	< 0.005
855444	< 0.005
855445	1.005
855446	< 0.005
855447	< 0.005
855448	< 0.005
855449	< 0.005
855450	0.006
855451	0.005
855452	0.007
855453	< 0.005
855454	< 0.005
855455	< 0.005
855456	< 0.005
855457	< 0.005
855458	< 0.005
855459	< 0.005
855460	< 0.005
855461	0.005
855462	0.008

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
855463	< 0.005
855464	< 0.005
855465	< 0.005
855466	< 0.005
855467	< 0.005
855468	0.005
855469	0.352
855470	1.049
855471	0.014
855472	0.175
855473	0.036
855474	0.153
855475	< 0.005
855476	0.005
855477	< 0.005
855478	< 0.005
855479	< 0.005
855480	< 0.005
855481	< 0.005
855482	< 0.005
855483	< 0.005
855484	< 0.005
855485	< 0.005
855486	< 0.005
855487	0.017
855488	0.021
855489	0.013
855490	0.688
855491	4.754
855492	0.041
855493	0.021
855494	0.019
855495	0.997
855496	0.010
855497	0.009
855498	0.011
855499	0.010
855500	0.061
855501	0.831
855502	0.082
855503	0.885
855504	0.045

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
855505	0.005
855506	0.019
855507	0.091
855508	0.089
855509	0.020
855510	0.009
855511	0.032
855512	0.010
855513	0.009
855514	0.010
855515	0.008
855516	0.006
855517	< 0.005
855518	< 0.005
855519	< 0.005
855520	1.032
855521	0.005
855522	0.012
855523	< 0.005
855524	< 0.005
855525	< 0.005
855526	0.007
855527	0.015
855528	< 0.005
855529	< 0.005
855530	0.005
855531	0.005
855532	0.005
855533	0.005
855534	< 0.005
855535	< 0.005
855536	< 0.005
855537	< 0.005
855538	< 0.005
855539	< 0.005
855540	0.005
855541	< 0.005
855542	0.005
855543	0.005
855544	0.005
855545	1.010
855546	< 0.005

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
855547	< 0.005
855548	< 0.005
855549	< 0.005
855550	< 0.005
855551	< 0.005
855552	< 0.005
855553	< 0.005
855554	0.006
855555	0.008
855556	0.008
855557	0.009
855558	0.009
855559	0.007
855560	0.006
855561	0.006
855562	0.006
855563	0.007
855564	< 0.005
855565	< 0.005
855566	< 0.005
855567	< 0.005
855568	< 0.005
855569	< 0.005
855570	1.021
855571	< 0.005
855572	< 0.005
855573	< 0.005
855574	< 0.005
855575	< 0.005
855576	< 0.005
855577	< 0.005

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
Oreas 221 (Fire Assay) Meas	1.088
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.010
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.007
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.019
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.001
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.029
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.027
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.017
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.075
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.053
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.006
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.037
Oreas 221 (Fire Assay) Cert	1.06

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
Assay) Cert	
Oreas 221 (Fire Assay) Meas	1.101
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.081
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.089
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.094
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.123
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.096
Oreas 221 (Fire Assay) Cert	1.06
855010 Orig	0.007
855010 Dup	0.008
855020 Orig	< 0.005
855020 Dup	< 0.005
855030 Orig	< 0.005
855030 Dup	< 0.005
855045 Orig	0.005
855045 Dup	< 0.005
855050 Orig	< 0.005
855050 Split PREP DUP	< 0.005
855054 Orig	< 0.005
855054 Dup	< 0.005
855064 Orig	< 0.005
855064 Dup	< 0.005
855079 Orig	< 0.005
855079 Dup	< 0.005
855089 Orig	< 0.005
855089 Dup	< 0.005
855099 Orig	< 0.005

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
855099 Dup	< 0.005
855100 Orig	0.005
855100 Split PREP DUP	< 0.005
855113 Orig	< 0.005
855113 Dup	< 0.005
855123 Orig	< 0.005
855123 Dup	< 0.005
855133 Orig	< 0.005
855133 Dup	< 0.005
855148 Orig	< 0.005
855148 Dup	< 0.005
855150 Orig	0.005
855150 Split PREP DUP	0.006
855157 Orig	0.006
855157 Dup	0.006
855167 Orig	< 0.005
855167 Dup	< 0.005
855182 Orig	< 0.005
855182 Dup	< 0.005
855192 Orig	< 0.005
855192 Dup	< 0.005
855200 Orig	< 0.005
855200 Split PREP DUP	0.005
855210 Orig	< 0.005
855210 Dup	< 0.005
855221 Orig	< 0.005
855221 Dup	< 0.005
855230 Orig	< 0.005
855230 Dup	< 0.005
855246 Orig	< 0.005
855246 Dup	< 0.005
855250 Orig	< 0.005
855250 Split PREP DUP	0.005
855254 Orig	< 0.005
855254 Dup	< 0.005
855264 Orig	< 0.005
855264 Dup	< 0.005
855279 Orig	< 0.005
855279 Dup	< 0.005

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
855289 Orig	< 0.005
855289 Dup	< 0.005
855299 Orig	< 0.005
855299 Dup	< 0.005
855300 Orig	< 0.005
855300 Split PREP DUP	< 0.005
855313 Orig	< 0.005
855313 Dup	< 0.005
855323 Orig	< 0.005
855323 Dup	< 0.005
855333 Orig	< 0.005
855333 Dup	< 0.005
855348 Orig	< 0.005
855348 Dup	< 0.005
855350 Orig	< 0.005
855350 Split PREP DUP	0.006
855357 Orig	< 0.005
855357 Dup	< 0.005
855367 Orig	< 0.005
855367 Dup	0.007
855382 Orig	< 0.005
855382 Dup	< 0.005
855392 Orig	< 0.005
855392 Dup	< 0.005
855400 Orig	< 0.005
855400 Split PREP DUP	< 0.005
855410 Orig	< 0.005
855410 Dup	< 0.005
855421 Orig	< 0.005
855421 Dup	< 0.005
855430 Orig	< 0.005
855430 Dup	< 0.005
855446 Orig	< 0.005
855446 Dup	< 0.005
855450 Orig	0.006
855450 Split PREP DUP	0.007
855454 Orig	< 0.005
855454 Dup	< 0.005
855464 Orig	< 0.005

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
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Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005

Quality Analysis ...



Innovative Technologies

Date Submitted: 15-May-19
Invoice No.: A19-06631-1A4
Invoice Date: 10-Jun-19
Your Reference: Dome West

Pelangio Exploration Inc
1080 Michelano Drive
Timmins Ontario
Canada

ATTN: Kevin Filo

CERTIFICATE OF ANALYSIS

577 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-Timmins g/m t Au - Fire Assay AA

Code 1A4-1000 (100mesh)-Timmins Au-Fire Assay-Metallic Screen-1000g

REPORT **A19-06631-1A4**

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

A representative 1000 gram split is sieved at 100 mesh (149 micron) with assays performed on the entire +100 mesh and 2 splits of the -100 mesh fraction. A final assay is calculated based on the weight of each fraction.

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3.

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive style with a large, stylized initial "E".

Emmanuel Esemé, Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.
1752 Riverside Drive, Timmins, Ontario, Canada, P4R 1N1
TELEPHONE +705 264-0123 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Timmins@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Results

Activation Laboratories Ltd.

Report: A 19-06631

Analyte Symbol	Au + 100 mesh	Au - 100 mesh (A)	Au - 100 mesh (B)	Total Au	+ 100 mesh	- 100 mesh	Total Weight
Unit Symbol	g/mt	g/mt	g/mt	g/mt	g	g	g
Lower Limit	0.03	0.03	0.03	0.03			
Method Code	FA-MeT	FA-MeT	FA-MeT	FA-MeT	FA-MeT	FA-MeT	FA-MeT
855269	6.67	< 0.03	< 0.03	0.48	31.50	408.00	439.50
855469	0.44	0.33	0.39	0.37	20.67	321.00	341.67
855490	1.16	0.85	0.92	0.90	34.48	778.00	812.48
855501	0.76	0.69	0.63	0.66	28.82	683.00	711.82
855503	0.94	0.93	0.90	0.92	41.31	380.00	421.31

Analyte Symbol	Total Au	Total Weight
Unit Symbol	g/mt	g
Lower Limit	0.03	
Method Code	FA-MeT	FA-MeT
OXN117 Meas	7.70	
OXN117 Cert	7.679	
OREAS 257 Meas	14.3	
OREAS 257 Cert	14.18	
Method Blank	< 0.03	0.00000
Method Blank	< 0.03	0.00000

Quality Analysis ...



Innovative Technologies

Date Submitted: 03-Jun-19
Invoice No.: A19-07294
Invoice Date: 07-Jun-19
Your Reference: Dome West

Pelangio Exploration Inc
1080 Michelano Drive
Timmins Ontario
Canada

ATTN: Kevin Filo

CERTIFICATE OF ANALYSIS

31 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-Timmins (10g/m t) Au - Fire Assay AA

REPORT **A 19-07294**

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3.

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé".

Emmanuel Esemé, Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.
1752 Riverside Drive, Timmins, Ontario, Canada, P4R 1N1
TELEPHONE +705 264-0123 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Timmins@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Results**Activation Laboratories Ltd.****Report: A19-07294**

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
701951	0.006
701952	< 0.005
701953	< 0.005
701954	0.006
701955	< 0.005
701956	0.005
701957	0.006
701958	< 0.005
701959	0.006
701960	< 0.005
701961	0.005
701962	0.140
701963	0.008
701964	0.081
701965	0.006
701966	0.008
701967	0.007
701968	0.006
701969	< 0.005
701970	1.04
701971	< 0.005
701972	< 0.005
701973	< 0.005

Analyte Symbol	Au
Unit Symbol	g/mt
Lower Limit	0.005
Method Code	FA-AA
Oreas 221 (Fire Assay) Meas	1.04
Oreas 221 (Fire Assay) Cert	1.06
701960 Orig	< 0.005
701960 Dup	< 0.005
701971 Orig	< 0.005
701971 Dup	< 0.005
701980 Orig	< 0.005
701980 Dup	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005

Appendix 3: Copy of Lithological Code

LEGEND

- 8U Diabase (All Ages)**
- 7U Felsic to Intermediate Intrusive**
- 7G Granite
 - 7GD Granodiorite, Quartz Monzonite
 - 7T Tonalite
 - 7S Syenite
 - 7M Manzonite
 - 7FP Feldspar Porphyry
 - 7OFF Quartz/Feldspar Porphyry
 - 7PA Pegmatite
 - 7A Aplite
 - 7F Felsite
- 6U Mafic to Ultramafic Intrusive**
- 6D Diorite, Trondhjemite
 - 6G Gabbro
 - 6A Anorthosite
 - 6P Peridotite, Pyroxenite
 - 6L Lamprophyre
- 5U Clastic Sediments**
- 5AR Argillite
 - 5ARG Graphitic Argillite
 - 5CW Greywacke
 - 5CG Conglomerate
 - 5CGT Timiskaming Conglomerate
 - 5SS Sandstone
 - 5ST Siltstone
 - 5Q Quartzite
 - 5A Arkose
- 4U Chemical Sediments**
- 4IF Iron Formation
 - 4IFS Sulphide Facies
 - 4IFC Silicate Facies
 - 4IFD Oxide Facies
 - 4C Chert
 - 4IGF Graphite
- 3U Felsic to Intermediate Volcanics**
- 3R Rhyolite
 - 3D Dacite
 - 3A Andesite
 - 3T Trochyte
- 2U Mafic Volcanics**
- 2MS Massive
 - 2P Pillowed
 - 2FB Mafic Flow-Breccia
 - 2HY Mafic Hyaloclastite
 - 2VAR Variolitic
 - 2POR Porphyritic
- 1U Ultramafic Volcanics - Unsubdivided**
- 1TC Talc-Chlorite Altered
 - 1GCB Green-Carbonite Altered

ABBREVIATIONS

Textural

ag agglomerate
 AZ,az alteration zone
 amy amygdaloidal
 FB,fb flow breccia
 fol foliated
 glom glomerophyric
 hy hyaloclastic
 htr heterolithic
 lap lapilli
 ms massive
 p pillowed
 por porphyritic
 sch schistose
 sfx spinifex
 t tuffaceous
 ves vesicular
 var variolitic

Veining

Av ankerite
 Cv calcite
 Epy epidote
 Hemv hematite
 Mtv magnetite
 Qv quartz
 Otourv quartz-tourmaline
 Qav quartz ankerite
 Qcv quartz calcite
 Tourv tourmaline

Intensity Code

Qav 1-5%
 QAV 5-15%
 [QAV] >15%

Structural

bd bedded
 bnd banded
 bx breccia
 bxd brecciated
 ct contact
 f fault
 FZ,fz fault zone
 fl faulting
 fl flow
 fr fracture
 g gouge
 s shear
 SZ,sz shear zone
 slk slickenside

OTHER

fg fine grained
 mg medium grained
 cg coarse grained
 fmg fine to medium grained
 fcg fine to coarse grained
 int intermittent
 loc, l locally (local) eg lmag
 mag magnetic
 mod moderate
 st strong
 vs very strong
 wk, w weak eg wmag

Alteration

Ab albitization
 Ank ankeritization
 Bi biotization
 Cal calcitic
 Carb carbonatization
 Cb carbon
 Chl chloritization
 Ep epidotization
 Gcb green carbonate
 Hem hematization
 Lx leucoxene
 Pot potassic
 Ser sericitization
 Serp serpentinization
 Sil silicification
 Tc talc
 Tour tourmaline

Intensity Code

Ank weak
 ANK moderate
 [ANK] strong

Mineralization

Asp arsenopyrite
 Cl clustered pyrite
 Cpy chalcopyrite
 Ds disseminated pyrite
 Gn goleno
 Mt magnetite
 Mo molybdenite
 Po pyrrhotite
 Py pyrite
 Sw stockwork pyrite
 V.G. visible gold

Intensity Code

Cpy trace to 1%
 [Cpy] 1-3%
 CPY 3-7%
 [CPY] 7-15%
 [CPY] >15%

Appendix 4: Copy of Oreas Standard 221 Specifications



ORE RESEARCH & EXPLORATION P/L ABN 28 006 859 856
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CERTIFICATE OF ANALYSIS FOR

Gold Ore (Andy Well Gold Mine, Western Australia)

CERTIFIED REFERENCE MATERIAL

OREAS 221



Document: COA-1287-OREAS221-R1

(Template: BUP-70-10-01 Rev:2.0)

25-October-2018

Table 1. Certified Values, SDs, 95% Confidence and Tolerance Limits for OREAS 221.

Constituent	Certified Value	SD	95% Confidence Limits		95% Tolerance Limits	
			Low	High	Low	High
Pb Fire Assay						
Au, Gold (ppm)	1.062	0.036	1.051	1.074	1.057*	1.067*
Aqua Regia Digestion (sample weights 10-50g)						
Au, Gold (ppm)	1.042	0.039	1.026	1.058	1.037*	1.047*
Gas / Liquid Pycnometry						
SG, Specific Gravity (Unity)	2.98	0.053	2.95	3.00	2.96	3.00

SI unit equivalents: ppm, parts per million \equiv mg/kg \equiv μ g/g \equiv 0.0001 wt % \equiv 1000 ppb, parts per billion.

*Gold Tolerance Limits for typical 30g fire assay and 25g aqua regia digestion methods are determined from 20 x 85mg INAA results and the Sampling Constant (Ingamells & Switzer, 1973).

Note 1: intervals may appear asymmetric due to rounding.

Note 2: the number of decimal places quoted does not imply accuracy of the certified value to this level but are given to minimise rounding errors when calculating 2SD and 3SD windows.

INTRODUCTION

OREAS reference materials are intended to provide a low cost method of evaluating and improving the quality of analysis of geological samples. To the geologist they provide a means of implementing quality control in analytical data sets generated in exploration from the grass roots level through to prospect evaluation, and in grade control at mining operations. To the analyst they provide an effective means of calibrating analytical equipment, assessing new techniques and routinely monitoring in-house procedures.

SOURCE MATERIALS

Certified Reference Material (CRM) OREAS 221 was prepared from a blend of Archean greenstone-hosted Wilber Lode primary ore from the Andy Well Gold Mine and barren Cambrian greenstone sourced from a quarry north of Melbourne, Australia. The Wilber Lode is a shear-hosted, narrow vein, quartz lode-style gold deposit situated within the Meekatharra-Wydege greenstone belt in the Archean Yilgarn Craton of Western Australia. The common primary mineral assemblage, as stated by Mason and Harris (2011, 2012, cited in Hingston et al, 2014), is quartz, calcite, chlorite, fuchsite, pyrite, galena, sphalerite, chalcopryrite and gold. The host rock consists of a complex sequence of Archean meta-basalt and meta-porphyrific rocks derived from a primary mineralogy of albite, actinolite, chlorite, sericite, biotite, calcite, zoisite, muscovite, quartz and titanate. The Andy Well deposit is located approximately 45km north of Meekatharra in the Murchison region of Western Australia.

The approximate major and trace element composition of OREAS 221 is provided in Table 2. The non-certified values contained in this table are the means of duplicate assays from one laboratory.

COMMINUATION AND HOMOGENISATION PROCEDURES

The material constituting OREAS 221 was prepared in the following manner:

- Drying to constant mass at 105°C;
- Crushing and milling of the barren materials to 98% minus 75 microns;
- Crushing and milling of the ore material to 100% minus 30 microns;
- Blending in appropriate proportions to achieve the desired grade;
- Packaging in 60g units sealed in laminated foil pouches and 1kg units in plastic jars.

ANALYTICAL PROGRAM

Thirty commercial analytical laboratories participated in the program to certify gold (as reported in Table 1) by the following methods:

- Gold via 25-50g fire assay with AAS (24 labs) or ICP-OES (4 labs) finish;
- Instrumental neutron activation analysis for Au on 20 x 1g subsamples to confirm homogeneity (1 laboratory).
- Gold via 15-50g aqua regia digestion with ICP-MS (13 labs), AAS (7 labs) or ICP-OES (1 lab) finish. It is important to note that in the analytical industry there is no standardisation of the aqua regia digestion process. Aqua regia is a partial empirical digest and differences in recoveries for various analytes are commonplace. These are caused by variations in the digest conditions which can include the ratio of nitric to hydrochloric acids, acid strength, temperatures, leach times and secondary digestions.
- Specific gravity by gas (12 labs) or liquid (4 labs) pycnometry.

For the round robin program twenty 1.5kg test units were taken at predetermined intervals during the bagging stage, immediately following final blending, and are considered representative of the entire batch. The six samples received by each laboratory were obtained by taking two 110g scoop splits from each of three separate 1kg test units. This format enabled nested ANOVA treatment of the results to evaluate homogeneity, i.e. to ascertain whether between-unit variance is greater than within-unit variance.

Table 1 presents the certified values together with their associated 1SD's, 95% confidence and tolerance limits and Table 2 shows 66 indicative values for major and trace element composition. Tabulated results of all elements (including Au INAA analyses) together with uncorrected means, medians, standard deviations, relative standard deviations and percent deviation of lab means from the corrected mean of means (PDM³) are presented in the detailed certification data for this CRM (**OREAS 221 DataPack - 1.1.181025_100056.xlsx**).

Results are also presented in scatter plots for gold by fire assay and aqua regia digestion (Figures 1 and 2, respectively) together with $\pm 3SD$ (magenta) and $\pm 5\%$ (yellow) control lines and certified value (green line). Accepted individual results are coloured blue and individual and dataset outliers are identified in red and violet, respectively.

Table 2. Indicative Values for OREAS 221.

Constituent	Unit	Value	Constituent	Unit	Value	Constituent	Unit	Value
Pb Fire Assay								
Pd	ppb	9.17	Pt	ppb	9.17			
Borate Fusion XRF								
Al ₂ O ₃	wt. %	13.30	K ₂ O	wt. %	0.285	P ₂ O ₅	wt. %	0.101
CaO	wt. %	9.80	MgO	wt. %	7.13	S	wt. %	0.197
Cl	ppm	10.0	MnO	wt. %	0.180	SiO ₂	wt. %	50.15
Fe ₂ O ₃	wt. %	11.70	Na ₂ O	wt. %	2.83	TiO ₂	wt. %	1.08
Thermogravimetry								
LOI ¹⁰⁰⁰	wt. %	3.36						
Laser Ablation ICP-MS								
Ag	ppm	0.250	Hf	ppm	1.86	Sm	ppm	2.34
As	ppm	9.10	Ho	ppm	0.82	Sn	ppm	1.50
Ba	ppm	150	In	ppm	0.075	Sr	ppm	111
Be	ppm	0.50	La	ppm	4.12	Ta	ppm	0.19
Bi	ppm	0.10	Lu	ppm	0.30	Tb	ppm	0.58
Cd	ppm	0.075	Mn	wt. %	0.146	Te	ppm	0.30
Ce	ppm	9.91	Mo	ppm	1.50	Th	ppm	0.43
Co	ppm	47.9	Nb	ppm	3.43	Ti	wt. %	0.636
Cr	ppm	254	Nd	ppm	8.12	Tl	ppm	< 0.2
Cs	ppm	0.19	Ni	ppm	111	Tm	ppm	0.31
Cu	ppm	152	Pb	ppm	5.50	U	ppm	0.025
Dy	ppm	3.53	Pr	ppm	1.55	V	ppm	306
Er	ppm	2.51	Rb	ppm	5.35	W	ppm	1.90
Eu	ppm	0.89	Re	ppm	0.008	Y	ppm	22.5
Ga	ppm	14.8	Sb	ppm	0.50	Yb	ppm	2.47
Gd	ppm	2.93	Sc	ppm	43.5	Zn	ppm	88
Ge	ppm	1.63	Se	ppm	< 5	Zr	ppm	63

SI unit equivalents: ppm, parts per million \equiv mg/kg \equiv μ g/g \equiv 0.0001 wt. % \equiv 1000 ppb, parts per billion.

Note: the number of significant figures reported is not a reflection of the level of certainty of stated values. They are instead an artefact of ORE's in-house CRM-specific LIMS.

STATISTICAL ANALYSIS

Certified Values, Confidence Limits, Standard Deviations and Tolerance Limits (Table 1) have been determined for each analyte following removal of individual, laboratory dataset (batch) and 3SD outliers (single iteration).

For individual outliers within a laboratory batch the z-score test is used in combination with a second method that determines the per cent deviation of the individual value from the batch median. Outliers in general are selected on the basis of z-scores > 2.5 and with per cent deviations (i) > 3 and (ii) more than three times the average absolute per cent deviation for the batch. In certain instances statistician's prerogative has been employed in discriminating outliers.

Each laboratory data set mean is tested for outlying status based on z-score discrimination and rejected if > 2.5 . After individual and laboratory data set (batch) outliers have been eliminated a non-iterative 3 standard deviation filter is applied, with those values lying outside this window also relegated to outlying status.

Certified Values are the means of accepted laboratory means after outlier filtering. The INAA data (see Table 3) is omitted from determination of the certified value for Au and is used solely for the calculation of Tolerance Limits and homogeneity evaluation of OREAS 221.

95% Confidence Limits are inversely proportional to the number of participating laboratories and inter-laboratory agreement. It is a measure of the reliability of the certified value. A 95% confidence interval indicates a 95% probability that the true value of the analyte under consideration lies between the upper and lower limits. *95% Confidence Limits should not be used as control limits for laboratory performance.*

Indicative (uncertified) values (Table 2) are provided for the major and trace elements determined by borate fusion XRF (Al_2O_3 to TiO_2), laser ablation with ICP-MS (Ag to Zr), LOI at 1000°C and C + S by infrared combustion furnace and are the means of duplicate assays from Bureau Veritas, Perth. Additional indicative values by other analytical methods are present where the number of laboratories reporting a particular analyte is insufficient (< 5) to support certification or where inter-laboratory consensus is poor.

Standard Deviation values (1SDs) are reported in Table 1 and provide an indication of a level of performance that might reasonably be expected from a laboratory being monitored by this CRM in a QA/QC program. The SD's take into account errors attributable to measurement uncertainty and CRM variability. For an effective CRM the contribution of the latter should be negligible in comparison to measurement errors. The SD values thus include all sources of measurement uncertainty: between-lab variance, within-run variance (precision errors) and CRM variability. OREAS prepared reference materials have a level of homogeneity such that the observed variance from repeated analysis has its origin almost exclusively in the analytical process rather than the reference material itself.

The SD for each analyte's certified value is calculated from the same filtered data set used to determine the certified value, i.e. after removal of any individual, lab dataset (batch) and 3SD outliers (single iteration). These outliers can only be removed after the absolute homogeneity of the CRM has been independently established, i.e. the outliers must be confidently deemed to be analytical rather than arising from inhomogeneity of the CRM. **The standard deviation is then calculated for each analyte from the pooled accepted analyses generated from the certification program.**

In the application of SD's in monitoring performance it is important to note that not all laboratories function at the same level of proficiency and that different methods in use at a particular laboratory have differing levels of precision. Each laboratory has its own inherent SD (for a specific concentration level and analyte-method pair) based on the analytical process and this SD is not directly related to the round robin program.

The majority of data generated in the round robin program was produced by a selection of world class laboratories. The SD's thus generated are more constrained than those that would be produced across a randomly selected group of laboratories. To produce more generally achievable SD's the 'pooled' SD's provided in this report include inter-lab bias. This 'one size fits all' approach may require revision at the discretion of the QC manager concerned following careful scrutiny of QC control charts.

Homogeneity Evaluation

The homogeneity of gold has been determined by INAA using the reduced analytical subsample method which utilises the known relationship between standard deviation and analytical subsample weight (Ingamells and Switzer, 1973). In this approach the sample aliquot is substantially reduced to a point where most of the variability in replicate assays should be due to inhomogeneity of the reference material and measurement error becomes negligible.

Table 3. Neutron Activation Analysis of Au (in ppm) on 20 x 85mg subsamples showing the equivalent results scaled to a 30g sample mass typical of fire assay determination.

Replicate No	Au 85mg actual	Au 30g equivalent*
1	1.062	1.093
2	1.074	1.094
3	1.081	1.094
4	1.104	1.096
5	1.121	1.096
6	1.039	1.092
7	1.074	1.094
8	1.107	1.096
9	1.095	1.095
10	1.134	1.097
11	1.088	1.095
12	1.098	1.095
13	1.113	1.096
14	1.057	1.093
15	1.116	1.096
16	1.070	1.094
17	1.150	1.098
18	1.129	1.097
19	1.072	1.094
20	1.119	1.096
Mean	1.095	1.095
Median	1.096	1.095
Std Dev.	0.029	0.002
Rel. Std. Dev.	2.64%	0.140%

*Results calculated for a 30g equivalent sample mass using the formula: $x^{30g Eq} = \frac{(x^{INAA} - \bar{X}) \times RSD@30g}{RSD@85mg} + \bar{X}$

where $x^{30g Eq}$ = equivalent result calculated for a 30g sample mass

(x^{INAA}) = raw INAA result at 85mg

\bar{X} = mean of 85mg INAA results

Table 3 above shows the INAA data determined on 20 x 85mg subsamples of OREAS 221. A subsample weight of 85 milligrams was employed and the 1RSD of 0.14% calculated for a 30g fire assay or aqua regia sample (2.64% at 85mg weights) confirms the high level of gold homogeneity in OREAS 221.

Please note that these RSD's and tolerance limits pertain to the homogeneity of the CRM only and should not be used as control limits for laboratory performance.

The gold homogeneity of OREAS 221 has also been evaluated in a **nested ANOVA** of the round robin program. Each of the thirty round robin laboratories received six samples per

CRM and these samples were made up of paired samples from three different, non-adjacent sampling intervals. The purpose of the ANOVA evaluation is to test that no statistically significant difference exists in the variance between-units to that of the variance within-units. This allows an assessment of homogeneity across the entire prepared batch of OREAS 221. The test was performed using the following parameters:

- Gold fire assay – 180 samples (30 laboratories each providing analyses on 3 pairs of samples);
- Gold aqua regia digestion – 120 samples (20 laboratories each providing analyses on 3 pairs of samples);
- Null Hypothesis, H_0 : Between-unit variance is no greater than within-unit variance (reject H_0 if p -value < 0.05);
- Alternative Hypothesis, H_1 : Between-unit variance is greater than within-unit variance.

P -values are a measure of probability where values less than 0.05 indicate a greater than 95% probability that the observed differences in within-unit and between-unit variances are real. The dataset was filtered for both individual and laboratory data set (batch) outliers prior to the calculation of the p -value. This process derived p -values of 0.47 for Au by fire assay and 0.82 for Au by aqua regia digestion. Both p -values are insignificant and the Null Hypothesis is retained.

It is important to note that ANOVA is not an absolute measure of homogeneity. Rather, it establishes whether or not the analytes are distributed in a similar manner throughout the packaging run of OREAS 221 and whether the variance between two subsamples from the same unit is statistically distinguishable to the variance from two subsamples taken from any two separate units. A reference material therefore, can possess poor absolute homogeneity yet still pass a relative homogeneity test if the within-unit heterogeneity is large and similar across all units.

Based on the statistical analysis of the results of the inter-laboratory certification program it can be concluded that OREAS 221 is fit-for-purpose as a certified reference material (see 'Intended Use' below).

Table 4 shows **Performance Gates** calculated for two and three standard deviations. As a guide these intervals may be regarded as warning or rejection for multiple 2SD outliers, or rejection for individual 3SD outliers in QC monitoring, although their precise application should be at the discretion of the QC manager concerned. A second method utilises a 5% window calculated directly from the certified value.

Standard deviation is also shown in relative percent for one, two and three relative standard deviations (1RSD, 2RSD and 3RSD) to facilitate an appreciation of the magnitude of these numbers and a comparison with the 5% window. Caution should be exercised when concentration levels approach lower limits of detection of the analytical methods employed as performance gates calculated from standard deviations tend to be excessively wide whereas those determined by the 5% method are too narrow. One approach used at commercial laboratories is to set the acceptance criteria at twice the detection level (DL) $\pm 10\%$.

i.e. Certified Value $\pm 10\% \pm 2DL$ (adapted from Govett, 1983)

Table 4. Pooled-Lab Performance Gates for OREAS 221.

Constituent	Certified Value	Absolute Standard Deviations					Relative Standard Deviations			5% window	
		1SD	2SD Low	2SD High	3SD Low	3SD High	1RSD	2RSD	3RSD	Low	High
Pb Fire Assay											
Au, ppm	1.062	0.036	0.989	1.135	0.953	1.171	3.43%	6.86%	10.28%	1.009	1.115
Aqua Regia Digestion											
Au, ppm	1.042	0.039	0.963	1.121	0.924	1.160	3.78%	7.55%	11.33%	0.990	1.094
Gas / Liquid Pycnometry											
SG, Unity	2.98	0.053	2.87	3.08	2.82	3.14	1.77%	3.53%	5.30%	2.83	3.13

SI unit equivalents: ppm, parts per million \equiv mg/kg \equiv μ g/g \equiv 0.0001 wt. % \equiv 1000 ppb, parts per billion.

Note 1: intervals may appear asymmetric due to rounding.

Note 2: the number of decimal places quoted does not imply accuracy of the certified value to this level but are given to minimise rounding errors when calculating 2SD and 3SD windows.

PARTICIPATING LABORATORIES

1. Actlabs, Ancaster, Ontario, Canada
2. ALS, Brisbane, QLD, Australia
3. ALS, Lima, Peru
4. ALS, Loughrea, Galway, Ireland
5. ALS, Perth, WA, Australia
6. ALS, Vancouver, BC, Canada
7. Bureau Veritas, Abidjan, Cote D'ivoire
8. Bureau Veritas Commodities Canada Ltd, Vancouver, BC, Canada
9. Bureau Veritas Geoanalytical, Adelaide, SA, Australia
10. Bureau Veritas Geoanalytical, Perth, WA, Australia
11. Inspectorate (BV), Lima, Peru
12. Intertek Genalysis, Adelaide, SA, Australia
13. Intertek Genalysis, Perth, WA, Australia
14. Intertek Testing Services, Cupang, Muntinlupa, Philippines
15. MinAnalytical Services, Perth, WA, Australia
16. Nagrom, Perth, WA, Australia
17. Newcrest Services Laboratory (NSL), Orange, NSW, Australia
18. PT Geoservices Ltd, Cikarang, Jakarta Raya, Indonesia
19. PT Intertek Utama Services, Jakarta Timur, DKI Jakarta, Indonesia
20. SGS, Randfontein, Gauteng, South Africa
21. SGS Australia Mineral Services, Kalgoorlie, WA, Australia
22. SGS Australia Mineral Services, Perth, WA, Australia
23. SGS del Peru, Lima, Peru
24. SGS Lakefield Research Ltd, Lakefield, Ontario, Canada
25. SGS Mineral Services, Townsville, QLD, Australia
26. Shiva Analyticals Ltd, Bangalore North, Karnataka, India
27. Sucofindo Mineral Lab, Cibitung, West Java, Indonesia
28. Sucofindo Mineral Lab, Timika, Papua, Indonesia

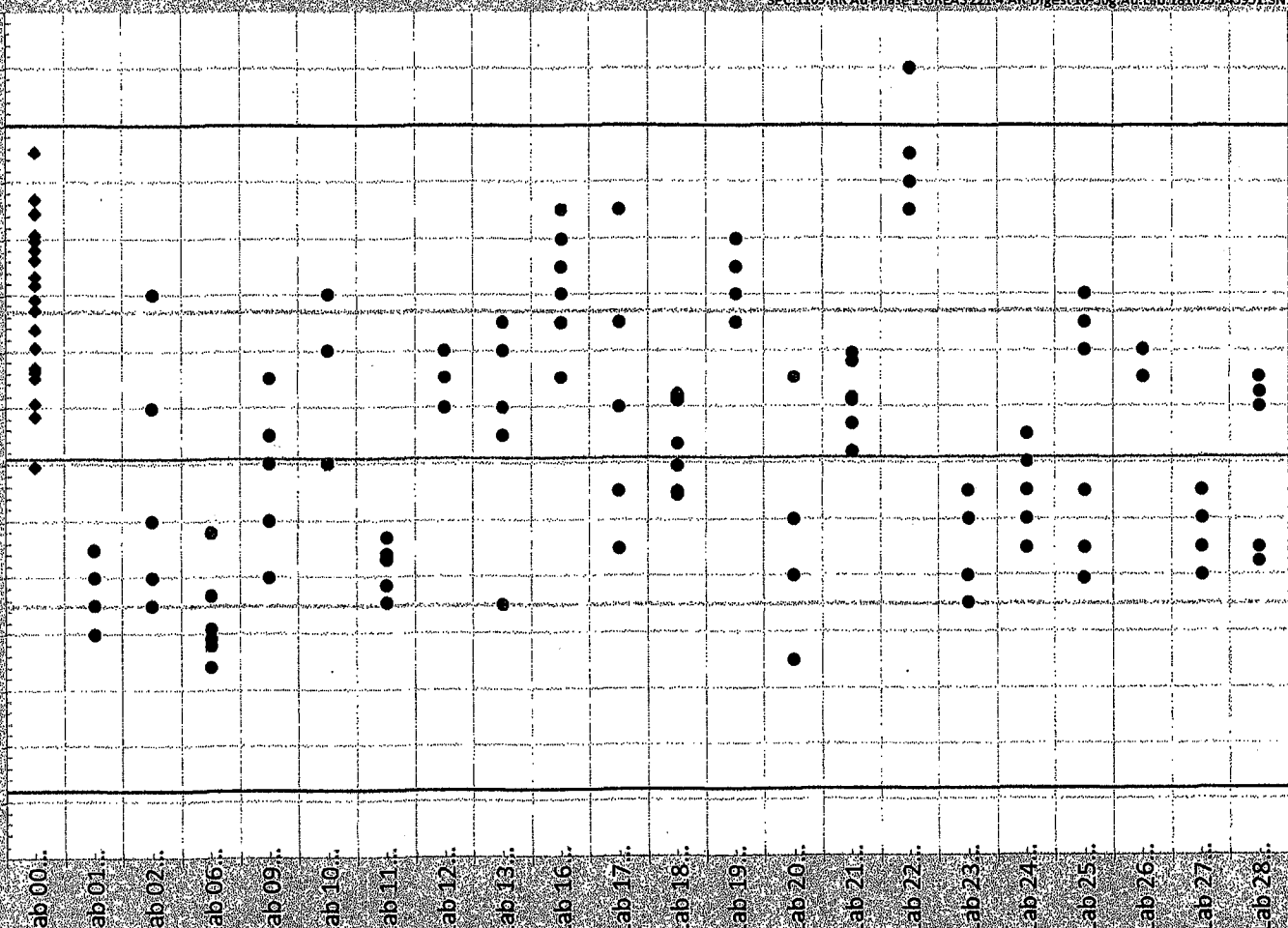
Please note: The above numbered alphabetical list of participating laboratories does not reflect the Lab ID numbering on the scatter plots below.

Figure 2. Au by AR Digest 10-50g in OREAS 221

SPC:1169.RR Au Phase 1: OREAS 221 4: AR Digest 10-50g Au Lab:181025:145951.SN

ppm

1.20
1.18
1.16
1.14
1.12
1.10
1.08
1.06
1.04
1.02
1.00
0.98
0.96
0.94
0.92
0.90



- Inlier
- ◆ INAA
- Indiv. Outlier
- Batch Outlier
- Rec. Value
- ± 1.5%
- ± 3SD

Lab

PREPARER AND SUPPLIER

Certified reference material OREAS 221 is prepared, certified and supplied by:



ORE Research & Exploration Pty Ltd
37A Hosie Street
Bayswater North VIC 3153
AUSTRALIA

Tel: +613-9729 0333
Fax: +613-9729 8338
Web: www.ore.com.au
Email: info@ore.com.au

It is available in unit sizes of 60g (single-use laminated foil pouches) and 1kg (plastic jars).

METROLOGICAL TRACEABILITY

The analytical samples were selected in a manner to represent the entire batch of prepared CRM. This 'representivity' was maintained in each submitted laboratory sample batch and ensures the user that the data is traceable from sample selection through to the analytical results that underlie the consensus values. Each analytical data set has been validated by its assayer through the inclusion of internal reference materials and QC checks during analysis.

The laboratories were chosen on the basis of their competence (from past performance in inter-laboratory programs undertaken by ORE Pty Ltd) for a particular analytical method, analyte or analyte suite, and sample matrix. Most of these laboratories have and maintain ISO 17025 accreditation. The certified values presented in this report are calculated from the means of accepted data following robust statistical treatment as detailed in this report.

Guide ISO/TR 16476:2016, section 5.3.1 describes metrological traceability in reference materials as it pertains to the transformation of the measurand. In this section it states, *"Although the determination of the property value itself can be made traceable to appropriate units through, for example, calibration of the measurement equipment used, steps like the transformation of the sample from one physical (chemical) state to another cannot. Such transformations may only be compared with a reference (when available), or among themselves. For some transformations, reference methods have been defined and may be used in certification projects to evaluate the uncertainty associated with such a transformation. In other cases, only a comparison among different laboratories using the same method is possible. In this case, certification takes place on the basis of agreement among independent measurement results (see ISO Guide 35:2006, Clause 10)."*

COMMUTABILITY

The measurements of the results that underlie the certified values contained in this report were undertaken by methods involving pre-treatment (digestion/fusion) of the sample. This served to reduce the sample to a simple and well understood form permitting calibration using simple solutions of the CRM. Due to these methods being well understood and highly effective, commutability is not an issue for this CRM. All OREAS CRMs are sourced from natural ore minerals meaning they will display similar behaviour as routine 'field' samples in the relevant measurement process. Care should be taken to ensure 'matrix matching' as close as practically achievable. The matrix and mineralisation style of the CRM is described in the 'Source Material' section and users should select appropriate CRMs matching these attributes to their field samples.

INTENDED USE

OREAS 221 is intended to cover all activities needed to produce a measurement result. This includes extraction, possible separation steps and the actual measurement process (the signal producing step). OREAS 221 may be used to calibrate the entire procedure by producing a pure substance CRM transformed into a calibration solution.

OREAS 221 is intended for the following uses:

- For the monitoring of laboratory performance in the analysis of gold by fire assay, gold by aqua regia digestion and specific gravity by pycnometry in geological samples;
- For the verification of analytical methods (gold fire assay, gold aqua regia digestion and specific gravity by pycnometry);
- For the calibration of instruments used in the determination of gold or specific gravity.

STABILITY AND STORAGE INSTRUCTIONS

OREAS 221 has been prepared from primary gold ore diluted with barren greenstone. It is low in reactive sulphide (~0.20 wt.%) and in its unopened state and under normal conditions of storage has a shelf life beyond ten years. Its stability will be monitored at regular intervals and purchasers notified if any changes are observed.

INSTRUCTIONS FOR CORRECT USE

The certified values for OREAS 221 refer to the concentration levels in its packaged state. There is no need for drying prior to weighing and analysis.

HANDLING INSTRUCTIONS

Fine powders pose a risk to eyes and lungs and therefore standard precautions such as the use of safety glasses and dust masks are advised.

LEGAL NOTICE

Ore Research & Exploration Pty Ltd has prepared and statistically evaluated the property values of this reference material to the best of its ability. The Purchaser by receipt hereof releases and indemnifies Ore Research & Exploration Pty Ltd from and against all liability and costs arising from the use of this material and information.

DOCUMENT HISTORY

Revision No	Date	Changes applied
1	25 th Oct, 2018	Replaced original INAA data with new improved INAA data (a more precise method became available).
0	22 nd Dec, 2016	First publication.

QMS ACCREDITED

ORE Pty Ltd is accredited to ISO 9001:2015 by Lloyd's Register Quality Assurance Ltd for its quality management system including development, manufacturing, certification and supply of CRMs.



CERTIFYING OFFICER

A handwritten signature in black ink, appearing to read 'Craig Hamlyn', is positioned above the name.

25th October, 2018

Craig Hamlyn (B.Sc. Hons - Geology), Technical Manager - ORE P/L

REFERENCES

- Govett, G.J.S. (1983), ed. Handbook of Exploration Geochemistry, Volume 2: Statistics and Data Analysis in Geochemical Prospecting (Variations of accuracy and precision).
- Hingston, R., Wellman, T. and Stemadt, G. (2014), The Geology of the Wilber Deposit, Andy Well Gold Project, Murchison District, Western Australia (pages 55-63, 9th International Mining Geology Conference 2014 - Proceedings - AusIMM).
- Ingamells, C. O. and Switzer, P. (1973), Talanta 20, 547-568.
- ISO Guide 30 (2015), Terms and definitions used in connection with reference materials.
- ISO Guide 31 (2015), Reference materials – Contents of certificates and labels.
- ISO Guide 3207 (1975), Statistical interpretation of data - Determination of a statistical tolerance interval.
- ISO Guide 35 (2017), Certification of reference materials - General and statistical principals.

Appendix 5: Copy of Prospecting Notes from Trench Samples

V1 Area Sampling Details

Sample #	Northing	Easting	Comment 1	Comment 2: Sample Description
701951	480385	5368101	shaft area	Rock from muck pile east of shaft collar (fines)
701952	480385	5368101	shaft area	Rock from muck pile east of shaft collar mainly quartz
701953	480385	5368101	shaft area	Felsic fragmental rock with fushitic fragments from shaft muck pile
701954	480385	5368101	shaft area	Rock from muck pile west side of shaft collar mainly quartz
701955				Blank re QA/QC
701956	480385	5368101	shaft area	Rock from muck pile west side of shaft collar mainly volcanics
701957	420371	5368100	pit west of shaft	Quartz vein and felsic volcanic contact from trench in place in trench
701958	420371	5368100	pit west of shaft	Quartz vein only from pit
701959	480331	5368140	Pit A	Quartz fly rock from pit with brown mineral ZnS?
701960	480334	5368139	Pit A	Quartz vein E. wall of Pit
701961	480334	5368139	Pit A	Felsic volcanic along E.wall of pit
701962	480352	5368147	Pit B	Quartz vein fly rock from trench
701963	480352	5368147	Pit B	Felsic wall rock adjacent vein 1/2% pyrite
701964	480368	5368130	Pit C	Quartz vein in trench in shear orientation 145 deg azimuth
701965	480368	5368130	Pit C	Felsic wall rock adjacent vein
701966	480375	5368141	Pit D	Quartz vein from pit
701967	480375	5368141	Pit D	Felsic volcanic, fly rock possibly but in pit
701968	480355	5368076	Trench 1	Sheared felsic volcanic
701969	480378	5368072	Trench 1	Sheared felsic volcanic
701970				Standard re QA/QC
701971	480391	5368070	Trench 1	Sheared felsic volcanic
701972	480370	5368109	Outcrop 1	Felsic volcanic
701973	480401	5368021	Pit E	Felsic volcanic with minor quartz

Appendix 6: Invoice Summary

Program Cost Summary for Assessment

Drilling			
Company	Invoice	Amount	Comment
NPLH Dilling	inv 6145	61758.97	
	Subtotal	61758.97	61758.97
Helicopter			
Company	Invoice	Amount	Comment
Expedition	inv104318	12140.95	
Expedition	inv104332	10843.03	
Expedition	inv104349	1202.77	
	Subtotal	24186.75	24186.75
Assaying			
Company	Invoice	Amount	Comment
	invA1906631	18585.96	
	invA1907294	747.21	
	A1906631B	512.74	
	Subtotal	19845.91	19845.91
Geology			
Company	Invoice	Amount	Comment
Filo Expl	199914	1808	Project planning work geo consulting
Filo Expl	199914	366.12	Expense re maps for project
Filo Expl	199916	1292.02	Expenses re field supply for drilling/logging
Filo Expl	199917	4859	Drill Supervison core, logging re geo consulting
Filo Expl	199918	34.99	Expenses re field supply for drilling/logging
Filo Expl	199919	2260	Core logging re geo consulting
Filo Expl	199921	904	Partial billing for report work re geo consulting
Filo Expl	199923	1582	Completion of report work billing re geo consulting
Superior	2019037	894.96	Drafting Service Expense for report
D. Bryant	WHP1901	2712	Labour for core cutting
D. Bryant	WHP1901	847.5	Core shack rental
D. Bryant	WHP1901	283.4	Expense re saw blade for core
D. Bryant	WHP1902	393.83	Electricity expense during core shack rental
	Subtotal	18237.82	18237.82
	Total	124029.45	