# REPORT on the AUGUST 2014 PROSPECTING PROGRAM on the NIXON-BARTLEMAN PROPERTY

For

**RENFORTH RESOURCES** 

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#### 1.0 INTRODUCTION

A two-week prospecting program was completed on the Nixon-Bartleman property, in the southwest area of the prolific Timmins-Porcupine Gold Camp. Nineteen grab samples and twelve channel samples were taken from the historic shaft and a variety of outcrops and historic trenches across the property. Thirty-one samples were taken in total, including nineteen grab samples and twelve channel samples from six channels. Nine samples gave elevated gold (>0.1 g/t) including seven over 1 g/t to a high of 22.10 g/t. Gold values confirmed and expanded upon historic non-compliant sampling, and extended the known strike of mineralization from 200 m to 500 m. Anomalous gold was also found in new areas of the property.

The program was undertaken by Brian Newton, Francis Newton and Mark Wellstead, all of Billiken Management, from the 6<sup>th</sup> to 14<sup>th</sup> of August 2014.

## 2.0 PROPERTY DESCRIPTION AND LOCATION

The Nixon-Bartleman property is located in the townships of Keefer (12 claims and 4 patents) and Hillary (3 claims), roughly 40 kilometers southwest of the city of Timmins. The claims and patents are contiguous and have a total area of roughly 313 hectares. The four patents cover the area of a series of gold showings and a historic shaft. The approximate latitude and longitude of the property is 48°25' N, and 81°45'W, respectively. The property lies within the following UTM coordinates: Northing 5347000 and Northing 5349000, Easting 437000 and Easting 440000, in Zone 17U, NAD 83.

Due Date	Work Required	Units
2014-AUG-14	\$400.00	1
	Due Date           2014-AUG-14           2014-AUG-14	Due Date         Work Required           2014-AUG-14         \$400.00           2014-AUG-14         \$400.00

Table 1: Details of Claims



Figure 1: Nixon-Bartleman Property Location



Figure 2: Nixon-Bartleman Property Map

# 3.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE & PHYSIOGRAPHY

The Nixon-Bartleman property can be accessed via Highway 101 which leads from Foleyet and Chapleau in the south to Timmins in the north. Access to the claims is via the Little Star Lake Road which branches west from Highway 101 about 3 km north of the edge of Cochrane District. This road leads along the southern edge of the Dana-Jowsey Lakes Provincial Park, and services cottages on the shore of the nearby Opishing Lake. A series of ATV trails lead from this road south into the property.

The landscape is a typical Northeastern Ontario continental forest environment. The property lies within Köppen climate zone Dfb (hemiboreal humid continental). Winters are cold and dry with typical midwinter lows of about -25° C and snowfall of about 300 cm. Summers are warm and wet but short, with temperature highs of 25° C and total rainfall of over 500 mm. Biting insects can be a nuisance in the summer months.

A powerline cuts across the property from northeast to southwest, passing about 200 m north of the historic shaft. The powerline corridor can be used as an access route by ATVs or snowmobiles.

The claims are fairly heavily wooded although they are crossed by a series of historic trails. The area covered by the patents was logged historically, and is covered by thickets of younger trees as well as a denser pattern of trails and drill pads from exploration over the last few decades.

# 4.0 HISTORY

The date of discovery of the Nixon-Bartleman gold showings is not known. However the area was staked in the 1920s by W H Hansen and was known as the "Moore Group". Assays from this period range up to 0.50 oz/t (Keast 1997). Jobert Keefer Gold Mines held the four patents from 1934 to 1938 and completed several programs of trenching, stripping, channelling and diamond drilling. Channel assays reached a high of 1.13 oz/t. No drill results are available from this time.

In 1946, Goldale Mines obtained the property, which was then known as Nixon-Bartleman. Outcropping veins were resampled very successfully (including a 28.8 g/t sample from a 1.22 m channel) and a second round of drilling was undertaken. A 3 mdeep shaft was sunk on the most prospective vein.

From the 1950s to early 1990s the area of the main showings did not see any significant work. In this era the property was referred to as the Sims Option and the Keefer Property. A series of geophysical and drill programs took place in outlying areas of the property, including drilling of strike-extensions by Hollinger in 1961 and drilling of conductive anomalies by Mingold Resources in 1990. The five Mingold DDH's totalled 387 m and encountered semi-massive sulphide lenses and disseminated pyrite, although no anomalous gold values were encountered (Davies and Boucher 1990).

The property was obtained by Teddy Bear Valley Mines in 1996, who cut a new grid across the entire property and completed a ground magnetic survey. A comprehensive mapping program accompanied by some grab and channel sampling was then undertaken.

PGM Ventures completed a comprehensive series of exploration programs in 2004 and 2005 (Boissoneault 2004, 2005). These included the drilling of 21 DDH totalling 3,973 m, beneath the main showings as well as outlying and on-strike targets. IP and geochemical (soil, vegetation) surveys were taken using the grid across the whole property. Further stripping was completed around the main showings, producing a near-continuous area of outcrop roughly 200 m long by 40 m wide. Systematic channel samples were cut across strike along the whole length of this area. Drill results from underneath the main showings were generally difficult to interpret but assay results ranged up to 39.8 g/t Au over 1 m (PGM-04-02). Mineralized intervals were also encountered in parallel structures elsewhere on the property. Channel sample assays ranged up to 18.65 g/t Au.

United Reef Limited completed a follow-up drill program in 2011, comprising seven DDH totalling 597 m. Six of these holes were drilled under the main showings; results were again difficult to correlate but assays also ranged high, up to 19.364 g/t Au over 0.3 m (UR-11-02). The seventh hole tested and confirmed an outlying anomaly discovered by PGM drilling (Billiken Management, 2011)

# 5.0 GEOLOGY

### 5.1 REGIONAL GEOLOGY

The Nixon-Bartleman property lies at the western extreme of the Abitibi Greenstone Belt. It is situated close to, or atop, the Porcupine-Destor Shear Zone, one of the largest such zones in the Abitibi Belt and which is strongly implicated in the formation of most of the gold deposits in the Timmins area. Figure 3 provides a summary of the regional geology.

### **5.2 PROPERTY GEOLOGY**

The Nixon–Bartleman property is crossed, NE-to-SW, by a band of steeply-dipping, strongly-deformed metavolcanics and metasediments. On either side lie granitoidal batholiths; the contacts between these and the supracrustal belt are of an unknown nature. This belt is divided in two by a NNW-trending, regional-scale fault which displaces the belt in a left-handed fashion to the order of 300 m. South of this fault, the belt is ~600 m wide in the southern two-thirds of the property.



Figure 3: Regional Geology for the Nixon-Bartleman Property



Figure 4: Property Geology for the Nixon-Bartleman Property

The supracrustal belt is comprised of a series of Archean-age mafic and intermediate flows, agglomerates, tuffs and sills, with minor quartzitic sediment and frequent alkali sills with a thickness of up to one metre. The metamorphic grade is greenschist to amphibolite; abundant chloritic schistosity alternates with actinolite and anthophyllite replacement. The volcanic units are strongly deformed along the plane of their strike, as evidenced by flattening of pillows and lapilli, and abundant bands of concordant shearing.

Diabase-to-gabbro dykes cross the belt and the granitoids with a NNW trend, comparable to that of the fault. These are part of the regional Matachewan swarm of early Proterozoic age. One such dyke is clearly visible east of the shaft on the property; it is plagioclase-porphyritic on its margins and also appears to be bounded on its west side by a significant shear zone. Other cross-cutting deformation fabrics can be seen in the field (including another set of shears at ~110 degrees). It is not known if these relate to a later deformation event or if these are Riedel shear-type relationship with the predominant concordant shearing.

The fault is inferred by the presence of coincident breaks in various geophysical trends seen in Teddy Bear Valley and PGM surveys. The main outcrops are underlain by a ~500 m-long IP trend running concordant to the strike of the volcanic belt. A linear magnetic high is coincident with this IP trend but continues southwestward for an additional 750 m towards the southwest corner of the property. Other VLF and magnetic anomalies appear to outline the margins of the belt, minor trends within it, and the cross-cutting traces of diabase dykes.

### 6.0 DEPOSIT TYPES AND MINERALIZATION

Gold mineralization close to the Porcupine-Destor system is typically found within "pinch and swell" quartz-carbonate veins within sheared mafic volcanic units. This is true of the Nixon-Bartleman mineralization as well as numerous significant deposits in the Timmins Area.

Gold at Nixon-Bartleman is found in free form as fine to coarse disseminations within boudinaged quartz veins and/or vein wallrocks. There is a strong association with sulphides, particularly cubic pyrite. Chalcopyrite and galena are also present intermittently, and appear to be most common within veins in the vicinity of the shaft.

# 7.0 EXPLORATION

Fieldwork was undertaken at Nixon-Bartleman from the 6<sup>th</sup> to 14<sup>th</sup> of August. Personnel included Brian H Newton, P. Geo, Mark Wellstead, and Francis Newton, of Billiken Management.

### 7.1 Shaft

The Nixon-Bartleman Shaft is approximately 5 m wide and 3 m deep. It was sunk into a large quartz swell at the eastern end of the outcrop area. The shaft is adjacent, and linked, to a north-trending marshy furrow 2 m deep, 2 m wide and 30 m long. It is unclear whether this is a historic trench or a weathering expression. A broken beaver dam at the north end of the marsh allowed both it and the shaft to drain to a large degree.

The north and west walls consist of competent bedrock and were easily accessible. The south and east walls are less structurally sound, are overhanging, and are underlain by the deepest portion of the shaft. These were more difficult to investigate.

The west wall of the shaft exposes two massive, faintly green quartz boudins which are 1.0 and 2.1 m thick at their widest. The larger of these boudins extends about one metre below surface, while the smaller boudin dips southward and reaches the bottom of the shaft. These boudins can be traced along the outcrop to the west for approximately five metres, and become joined. They are hosted by a ~50°-trending band of schistosity in the host mafics. This schist appears to have a steep dip near surface but within the shaft can be seen to bend around the boudins.

The schist hosts very coarse (up to 5 cm) aggregations of fine pyrite. The two vein boudins themselves carry only rare medium pyrite cubes.

Patches of quartz are visible on the east wall of the shaft and it appears that the quartz veins dip towards the east. The east wall was heavily worked and excavated historically so the trace of the vein is not completely clear. At one location it appears that a ~0.8 m vein was completely removed.

The north wall exposes chloritic mafic volcanics permeated by a series of joint sets. One of the more prominent sets strikes at 65° with a 45° dip which in places is followed by occasional quartz veinlets up to 1 cm thick and a few centimetres long. Medium free gold is seen within these veins alongside medium pyrite cubes.

Free gold, sometimes alone but often associated with sulphides (pyrite, chalcopyrite, bornite, galena), was seen embedded within the mafic host at a handful of locations, with no obvious immediate link to any vein or tectonic feature.

Four samples were taken from the shaft. Three (1409311-13) were cut from the north face using a channel saw, and were targeted at instances of visible gold. Assay values for these samples are 0.035 g/t Au, 0.093 g/t Au and 0.032 g/t Au respectively. The

fourth (1409314) was taken from the pyritic schist that borders the largest quartz vein in the west face. This sample assayed 1.91 g/t Au.

### 7.2 Main Outcrops

West Outcrop

One PGM sample gave 11.65 g/t in the middle of the west outcrop. A channel site could not be identified but a probable grab location was found. This location corresponds to a cross-cutting shear fabric, which cuts a 10 cm concordant quartz vein at 110° to north. Pyrite cubes could be seen along the shear fabric. On a scale of a few metres, this shear could be seen to curve at both ends to join the prevailing north-east shear fabric, forming a very open Z shape. Sample 1409310 was taken at this location to confirm whether or not the correct location of the PGM sample was found. It assayed at 9.41 g/t Au thus supporting this idea (Figure 5)

Several locations were visited where PGM channels gave values from ~0.1 to 1 g/t Au. These are largely within concordant veins and shears but may have loose associations with cross-cutting features, usually at 90° to 110°. The two highest-grade samples from the west outcrop (15.40 and 18.65 g/t) were both taken from a very strongly deformed schistose band a few metres wide, in which quartz veins are very strongly boudinaged and probably folded in an isoclinal (very tight) fashion. PGM maps show a fault passing through this area at 95° though evidence of this was not found. A shallow spot exists in the outcrop near this point but this appears to be more likely a blast-hole rather than anything structurally related; however, the units here are clearly very deformed in some fashion. Another set of PGM channels a few metres east give 1.745, 2.12 and 7.01 g/t Au. These cover a series of 20 cm veins and shear bands. About 1 m east of these is a very prominent shear cross-cutting the prevailing foliation at 110° to north. The shear itself was not sampled by PGM – the historic channels jump across it.

### East Outcrop

A pattern of jointing and shearing at 90° and 110° exists on the eastern tip of the east outcrop. Coarse pyrite cubes were easily visible within these structures. At the very south east end of this area lies a small outcrop from which a 12 g/t sample was cut by PGM. This location was made more accessible by the draining of the beaver dam and hence the adjacent marsh. The outcrop was expanded via by stripping by hand. Doing so uncovered a 2 m thick quartz vein, although its trend is unclear. The hosting mafic volcanics are flooded with orthoclase and perhaps red chert. The vein itself carries coarse clots and stringers of chalcopyrite as well as patches of galena. Fine Au flakes were also observed. This vein seems unusual in that chalcopyrite and galena are much more common here than elsewhere on the property, except for in the shaft.

A new outcrop had been exposed on the east side of the marsh as a result of the draining. This is part of the north-south trending dyke that cuts east of the shaft.



Figure 5 Findings from main trench area and northeast (see appendices for legend)

# **7.3 Outcrops and Trenches to Northeast** *Stripped areas*

A series of stripped areas lie about 5 m east of the shaft, on the other side of a trail. It is approximately 80 m long, 30 m wide and shaped somewhat like a lowercase, backwards 'h'. A Matachewan diabase dyke cuts across this area trending NNW, forming much of the upper stem of the 'h'.

The bulk of the country rock consists of chloritic mafic-to-intermediate metavolcanics striking subvertically at ~55°. Within this are a series of parallel granitoidal (alkali syenite) sills up to 50 cm thick.

Samples 1409303-4 and 1409320-2 were taken at the eastern end of this stripped area from a 5-20 cm-thick concordant boudinaged quartz vein hosted by a ~50 cm-wide band of shearing. The wallrocks consist of fine-grained mafics and carry medium pyrite and perhaps arsenopyrite. The southern wallrock is flooded with jasper. Coarse pyrite is found along the vein margins and within the jasper. These samples were cut in order to compare with a historic Teddy Bear Valley Mines channel that ran 0.06 oz/ton Au (approximately 2 g/t). Samples 1409303 and 1409304 returned with assays of 0.422 g/t Au and 2.87 g/t Au. Sample 1409320 returned with an assay of 0.085 g/t Au, sample 1409321 assayed 22.1 g/t Au and sample 1409322 returned with an assay of 3.9 g/t Au.

Northwards, up the stem of the 'h' lies a  $\sim$ 50 cm-thick quartz vein, trending at  $\sim$ 75° which is truncated by the dyke margin to the west. It did not appear to be mineralized,

but it and its wallrock were sampled (1409305 and 1409306). These samples assayed 0.004 g/t Au and 0.01 g/t Au respectively.

At the northern tip of the 'h', the western margin of the dyke is exposed and can be seen to follow a ~10 m-wide zone of very intense schistosity. Sample 1409307 was taken from the west margin of the dyke. Here, a highly silicified unit hosts expansive druzys of medium pyrite and quartz on fracture planes. This is likely to be some kind of margin hornfels, probably of felsic protolith, but the exact nature of this lithology or its relationships to the surroundings was not easy to determine in the field.

The southwestern end of the 'h' forms a 25 m trench. At the southern end of the trench is a wide shear zone, trending at 35°. Shear sense is dextral as indicated by rare z-folds.

### Eastern Trenches

Three trenches, each about 40 m long, lie east of this stripped area. Mafic volcanics form the country rock in the first two, into which are intruded syenite sills. Weak shearing is present throughout most of the volcanics, indicated by sigmoidal quartz veinlets. A band of chloritic schist crosses the south end of the westernmost of these trenches, playing host to a series of small quartz boudins. Along-strike of here in the central trench is a set of hairline tension fractures running at ~140°. A Teddy Bear Valley Mines channel was taken close to here, which ran 0.064 oz/ton Au. The channel is visible but the exact source of the gold is not obvious. This channel was cut across strike but it was suspected that it may have unintentionally picked up one of the tension fractures, and that these may have hosted the gold. Sample 1409323 was channelled across these veins and returned with an assay of 0.039 g/t Au.

The easternmost trench is located approximately 120 m north east of the shaft. This trench is almost completely flooded save for a ~10x10 m outcrop of unfoliated diabase/gabbro in the centre. This may represent another Matachewan dyke.

### 7.4 Outcrops and Trenches to Southwest

There are a number of trenches and stripped outcrops on-strike to the southwest of the main outcrop area. The first of these, approximately 200 m southwest of the main outcrop, exposes a fine metavolcanic permeated by a shear fabric striking vertically at 45°. Epidote stringers are aligned with this lineation. There are also cross cutting shears oriented at 100 degrees. The whole exposed area covers roughly 10 x 30 m, cutting across-strike. The north end runs into a northward-dipping ridge which may have been blasted historically. Sample #1409315 was taken from the ridge face, where a single pyrite-bearing quartz stringer was seen and returned with an assay of 0.01 g/t Au (Figure 6).

About 5 m west of this area is another smaller trench, approximately 20 m long and 3 m wide, oriented across-strike. The bulk lithology is comparable although the trench is crossed by a prominent concordant low-spot which may outline some kind of shear structure. Jasper flooding and 10 cm-thick quartz boudins were seen below the

waterline in this low spot. Sample 1409316 was taken from one of these and returned with an assay of 0.433 g/t Au.

Fifty metres west of here is a ~15 x 15 m stripped outcrop area, joined to two ~15 mlong flooded trenches. This outcrop exposes a series of ~55°-striking mafic volcanics and lapilli tuffs. One ~5 m-thick lapilli unit appears to be silicified. A 120° jointing set exists throughout with rare quartz sweats along joint fractures, which in at least some instances appear to be sheared.

Roughly in the center of the stripped area is a 15 m long, 0.3-1 m thick quartz vein concordant to bedding that can be traced along almost the entire width of the stripped outcrop. The northern contact of the vein appears to follow a minor intermediate porphyry sill. The mafic wallrock on the south side carries coarse pyrite, as does the vein quartz itself. Three samples 1409317-9 were taken, covering the vein and its wallrocks from north to south. These samples returned with assays of 0.004 g/t Au, 1.69 g/t Au and 2.08 g/t Au respectively. The presence of coarse pyrite within the massive vein quartz, as opposed to along margins, appears to be fairly unusual for this property. At the northern tip of the outcrop area is a ~50 cm quartz boudin concordant to cross shearing at 120°. It appears to be of an older generation than the mineralized vein as it is blocky and heavily fractured internally.

There are a series of stripped outcrops further to the west forming a line about 7 m wide and 55 m long. A fine mafic metavolcanic covers the northern portion, with a strong shear fabric oriented at 65° followed by minor cm-scale quartz boudins.

The remainder of the outcrop consists of diabase and gabbro which probably represents a Matachewan dyke. The exact location of the contacts could not be determined. The dyke is internally jointed at 60°, 110° and 160°. Very rare cm-scale quartz sweats were also observed within the dyke at seemingly random orientations. The very southern tip of the outcrop appears to be country mafics, meaning the dyke is about 40 m thick assuming it has a NNW trend.



Figure 6 Findings from southwestern areas

### 7.5 Powerline Area and Ridges

There are a number of ridges which form strings of outcrops around the powerline that cuts through the property.

The first of these was discovered on the first day of the site visit. It trends at roughly 20° for 300 m. The northernmost outcrop on this ridge is approximately 20 x 20 m in size and shows highly chloritized, schistose mafic to intermediate volcanics. Five cm-thick quartz veins follow a 170° shear set. There are also three separate foliations oriented at 40° and 130°. The remainder of this ridge consists of chlorite schist exhibiting strong kink folding.

One of the quartz veins at the north of the ridge was believed to carry fine visible gold along its margin as well as galena, chalcopyrite, pyrite and possibly bornite. This vein lies within a shear band approximately 1 m thick. Two samples (1409301-2) were taken from points about 5 m apart on this vein, and two three-sample channels (1409324-6 and 1409327-9) were cut across this vein and another parallel vein a few metres away; gold values were low but the presence of copper and lead sulphides suggest that there may be a relationship to veining in the shaft area. Sample 1409330 was cut using the channel saw to explore the chlorite schist and was unmineralized. These are shown on Figure 7.

Another ridge runs north from the powerline and has its southern end about 40 m west from the gold outcrop. Deformation in the schists and metavolcanics of this ridge is very strong and it is difficult to determine an overlying trend to shear fabrics and schistosity. On the north side of this ridge was found a 4 cm-thick quartz vein up to 4 cm in

thickness that is partly concordant to the local schistosity (80° strike with 70° S dip) while also following cross-cutting fractures. Two samples (1409308 and 9) were taken to cover this vein, although both gave only background gold values in assay.

Approximately 400 m west along the powerline of the gold outcrop is an outlying outcrop atop a broad topographic high that seems to trend roughly 40°. The outcrop is about 70 x 20 m in size. Here, fine-to-medium chloritized metavolcanics trend from 40° to 60°. Shearing seems to occur in bands but is concordant to lineation. There are rare boudinaged quartz veins up to 5 cm thick present throughout the outcrop that are concordant to shearing. There are four individual joint planes present in this outcrop oriented at roughly 10°, 60° and 130°, with variable dips. Sample 1409331 was cut from this outcrop to cover a quartz boudin, but was unmineralized.



Figure 7 Prospecting Findings: Powerline Outcrops and Ridges

# 8.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

Sample material was gathered on the basis of observed or anticipated mineralization. Grab sample material was removed from outcrops using hand tools. Channel samples were cut using a diamond saw before being removed using chisels. Each sample was inserted into a labelled bag immediately after its recovery, alongside a unique tag provided by the assay laboratory. Bags were then tied using cable ties and placed in larger labelled rice bags, for ease of transport to the laboratory.

The thirty-one samples collected from the Nixon-Bartleman property were delivered to AGAT Labs in Sudbury by Minroc Management. The samples were assayed by "202-

052" fire assay for gold with an ICP-OES finish. A gravimetric finish was employed for Au overlimits.

AGAT Labs conduct their own in-house QA/QC sampling. For this sample batch this included two blanks, standards and repeats for the 202-052 Fire Assay, and one each blank, standard and repeat for the gravimetry.

# 9.0 ADJACENT PROPERTIES

A large number of small properties exist in the vicinity of the Nixon-Bartleman property. Figure 8 outlines the possible structural relationships between Nixon-Bartleman and these properties. The most intensively-explored and most prospective properties are those held by Lake Shore Gold Corp. and Richmont Mines Inc., both of which are within a 30 km radius of the Nixon-Bartleman property.

Nixon-Bartleman shares many characteristics with these deposits. Most significant is proximity to the Porcupine-Destor Fault or daughter splays. In addition, the host units are typically mafic volcanics which have been subjected to ductile (shear) deformation and hydrothermal alteration. In addition, lenses of porphyry are found in proximity to gold mineralization in some deposits, e.g. the Gold River Trend at Timmins West. Minor porphyry units are known to exist at Nixon-Bartleman immediately adjacent to mineralized quartz veins.

The Richmont Mines Inc. Cripple Creek property is located about 27 km northeast of the Nixon-Bartleman property and 5 km to the southwest of the Timmins West Deposit. Geologically, the Cripple Creek property contains mafic and ultramafic volcanics covering the main part of the property and sediments in the south. The property is bordered by the Destor-Porcupine fault to the south and the Bristol fault to the north. Historic exploration on the property has shown that there are at least three gold-bearing zones. Richmont conducted a successful drill program in 2010 aiming at deep targets below 400 m. Assay intervals reached a high of 73.54 g/t Au over 7.0 m in hole CC-10-45 (Richmont Mines 2014).

Lake Shore Gold's Timmins West property lies about 25 km east of the Nixon Bartleman property, atop both the Destor Porcupine fault and local faults such as the TC-144 Trend and the Gold River Trend. This complex includes the producing Timmins West Mine as well as the Thunder Creek deposit and the Gold River and 144 prospects. Timmins West began production in 2012, and in 2013 produced 107,100 oz of gold (Lake Shore Gold 2014).

Explor Resources' Timmins Porcupine West property lies about 30 km northeast of Nixon-Bartleman, adjacent to Lake Shore Gold. Historic work on this exploration-stage property revealed a mineralized zone in proximity to the Porcupine-Destor and to a porphyry body. Historic DDH results include 7.9 g/t Au over 3 m, and 3.6 g/t over 5.5 m (Explor Resources 2013).

A series of small-scale properties and historic projects exist to the southwest of Nixon-Bartleman along the Porcupine-Destor trend. However exploration has historically been patchy and this area has never been explored in a comprehensive fashion. The Sewell-West property, about 25 km west of Nixon-Bartleman, was held by Benton Resources in 2011. Drillholes intersected high-grade lenses in 2012, with assays reaching highs of 94.0 g/t over 1.1 m (Benton Resources 2012). Sewell West is currently held by Zinccorp Resources.

Nearby, the Pen Gold property held by Rapier Gold hosts gold-bearing quartz veins spatially related to a porphyry unit, near where the Porcupine-Destor trend spawns two major splays known as the Deerfoot and Hardiman faults. Gold was discovered accidentally in 1998 as a by-product of talc exploration undertaken by a subsidiary of Rio Tinto. Significant intersects from a subsequent Rio Tinto drill program included 22.1 g/t over 0.3 m, and 9.96 g/t over 2.0 m (Rapier Gold 2014).



Figure 8 Nixon-Bartleman Nearby Properties

# **10.0 INTERPRETATIONS AND CONCLUSIONS**

The 2014 sampling program has shown that gold mineralization exists on surface elsewhere on the property beyond the main outcrop. Notable results came from stripped areas both northeast and southwest of the main outcrop, covering over 450 m of strike. This trend, assuming it constitutes a single structure, can also be seen to cut across

significant regional features including the Matachewan dyke and its accompanying shear structure.

Mineralogically it is strongly evident that gold is found alongside pyrite, particularly when in its cubic form, within quartz veins, along vein margins, and in shear structures. This style of mineralization lends itself to geophysical exploration via Induced Polarization (IP). Two 500 m-long concordant IP anomalies can be seen in PGM data, one roughly stretching the whole length of the stripped outcrops and the other running close to the powerline. Both appear to be truncated by the fault, and the former is coincident with a longer magnetic trend. The IP anomalies may indicate two parallel mineralized trends but are doubtlessly influenced at least partly by cultural and overburden factors.

The limited spread of available outcrop means that it is difficult to imply any information regarding additional parallel trends from this program. Mineralized veins and shears were seen in 2004 and 2011 drill core from locations away from the main trend, but incomplete core sampling and lack of surface outcrop prevents any meaningful interpretation of those results at this time. Samples taken on the powerline did not return gold values, however the presence of galena and chalcopyrite might still suggest a link to the gold mineralization seen on the main trend.

Investigations of the main outcrop, as well as the results of the confirmatory sample, show that mineralization correlates with cross-cutting shear structures at least on outcrop scales. A number of large-scale cross-cutting shear and fault structures, at a variety of azimuths, are known to exist on the property and it is entirely possible that some of these are mineralized or play a role in facilitating mineralization. Of particular interest is the NNW-trending schistose shear zone that runs east of the shaft.

The bark gold anomaly has so far never been explored or confirmed by any other methodology. No outcrop was found within the area of the bark anomaly in 2014. However the correlation with the inferred fault could prove to be significant.

The identification of granodiorite outcrops along the powerline to the northeast strongly supports the existence of the NW-trending fault. The throw of the fault must be sinistral and at least 250 m. It can be assumed that the mineralized trend will likely continue wherever the equivalent host units have been displaced to; however there are no outcrops in the appropriate areas of the property.

### **11.0 RECOMMENDATIONS**

The potential for further exploration on the property is great, although future work should first concentrate on the patchy yet extensive library of historic data that relates to the property. A comprehensive reinterpretation of historic work should be undertaken ahead of any further fieldwork. This should include remodelling and reinterpreting historic drillhole and surface geology and sampling; reinterpreting and integrating the numerous historic geophysical and geochemical datasets, and comparing these interpretations with similar deposits elsewhere on the Porcupine-Destor trend.

Future fieldwork should be based on the outcome of this reinterpretation, but should include resampling of historic core, follow-up stripping or trenching, and drilling of additional targets.

### **12.0 REFERENCES**

T Keast 1997: Assessment Report on the Sims Option for Teddy Bear Valley Mines Ltd.

R Davies, R Boucher 1990: Report on a Diamond Drilling Program carried out on Sims and Continental Properties

J R Boissoneault 2004: Report on Channel Sampling and Surface Mapping Programs 2004, Keefer Property. PGM Ventures Corp

J R Boissoneault 2005: Report on Diamond Drilling Program 2004, Keefer Property. PGM Ventures Corp

Billiken Management 2011: Report on 2011 Diamond Drilling Program on the Nixon-Bartleman Property. United Reef Ltd

Benton Resources 2012: Benton Drills 94.0GPT over 1.1 Metres at Sewell-West Timmins, webpage, http://www.bentonresources.ca/article/benton-drills-940-gpt-gold-over-11-metres-at-sewellwest-timmins-313.asp

Explor Resources Inc 2013: Timmins Porcupint West Presentation, webpage, http://explorresources.com/\_resources/presentations/Explor\_Resources\_TPW\_Present ation.pdf

Lake Shore Gold 2014: Timmins West Mine, webpage, http://www.lsgold.com/Mines-Projects-Properties/Review-of-Properties/Timmins-West-complex/Timmins-West-Mine-Operating-Mine/default.aspx

Rapier Gold 2014: Pen Gold Project, webpage, http://www.rapiergold.com/s/pen\_gold.asp?ReportID=582931,582939,582943,582951,5 82952,582953,582957,582962

Richmont Mines 2014: Cripple Creek, webpage, http://www.richmontmines.com/Operations%20Exploration%20Properties%20Cripple%20Creek

#### 13.0 DATE AND SIGNATURE PAGE

#### Certificate of Qualified Person:

I, Brian H. Newton, certify that;

1. I reside at 1518 Jasmine Crescent, Oakville Ontario L6H 3H3 and I am a geologist practitioner for Minroc Management Services Inc., office address 304-65 Front St. East, Toronto, Ontario M5E 1B5.

2. This certificate applies to the technical report entitled "Report on the August 2014 Prospecting Program on the Nixon-Bartleman Property." Dated 1 October, 2014.

3. I am a graduate of McMaster University, Bachelor of Science in Geology (1984) and have practiced my profession continuously.

4. I am a member of the Association of Professional Geoscientists of Ontario (APGO) Registration No. 1330.

5. I am a qualified person for the purposes of National Instrument 43-101- Standards of Disclosure for Mineral Projects (NI 43-101).

6. I prepared sections 1.0 to 11.0 of this Technical Report.

7. I am independent, as described in Section 1.4 of NI 43-101, of Renforth Resources.

8. I have had no prior involvement with the property that is the subject of this Technical Report.

9. As of the date of this certificate, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make this Technical Report not misleading.

Effective Date: 1 October 2014

G Brian H Newton, P.Geo Brom Ho, Ne BRIAN H. NEWTON 12 PRACTISING MEMBER 1330

# Appendix 1

List of Samples, their assays and descriptions

Date	Sample	UTM E	UTM N	Au g/t	Desc
06-Aug	1409301	438212	5348114	0.008	Powerline outcrop: 5cm qz vein (170/90) in chl sch maf vol, fine py+cpy+gl+Au in vugs
06-Aug	1409302	438211	5348118	0.009	Powerline outcrop: Same 5cm qz vein from N end of outcrop. Hosted within 1m-wide sch band
07-Aug	1409303	438314	5347926	0.422	fine weakly sheared maf vol with med-coarse py+aspy? Wallrock of vein (following sample)
07-Aug	1409304	438314	5347926	2.87	5-10cm boudinaged white granular quartz vein within shear band, 70-80deg strike
07-Aug	1409305	438283	5347955	0.004	60deg 1-2m thick very coarse qz vein with fluorite. No sul visible
07-Aug	1409306	438283	5347955	0.01	chl-hb schist, wallrock of previous vein
07-Aug	1409307	438261	5347970	0.005	silicified fels vol, perhaps hornfels from dyke margin. Med qz+py druzys along one fracture plane
10-Aug	1409308	438142	5348171	0.007	chl sch from cliff face north of powerline, with concordant plag+kspar veinlets
10-Aug	1409309	438142	5348171	0.003	4cm-thick white qz vein, broadly follows chl sch but cuts across forming Z shape in one location. No sul visible
11-Aug	1409310	438188	5347816	9.41	sheared agglomerate maf vol from west outcrop, from probable site of PGM 11.65g/t sample. Py on 110deg shear plane
09-Aug	1409311	438267	5347925	0.035	fine py+Au in vug in maf vol, from N face of shaft.
09-Aug	1409312	438267	5347925	0.093	fine-med py+Au in 5mm qz veinlet in maf vol along joint, from N face of shaft
09-Aug	1409313	438267	5347925	0.032	med Au in maf vol, from N face of shaft
09-Aug	1409314	438267	5347925	1.91	schist along main vein margin with med py aggs + rare fine Au, from W face of shaft
13-Aug	1409315	437994	5347654	0.009	Maf vol with hairline x-cut qz str, occ fine py

13-Aug	1409316	437996	5347625	0.433	qz and jasper from 5cm-thick boudin on N side of 2m- wide 50deg shear structure. No sul visible
13-Aug	1409317	437978	5347605	0.004	jasper-flooded plag porphyry, N wallrock of qz vein (following sample)
13-Aug	1409318	437978	5347605	1.69	white qz from 50cm vein, coarse py str within qz, sometimes alongside hornblendes
13-Aug	1409319	437978	5347605	2.08	schistose maf vol, S wallrock of qz vein (prev sample)
13-Aug	1409320	438313	5347925	0.085	CHNL 1/3 re-cut of TBM 0.06oz/ton. 30cm schistose maf vol (N wallrock)
13-Aug	1409321	438313	5347925	22.1	CHNL 2/3 re-cut of TBM 0.06oz/ton. 30cm qz boudin with jasper flooding on south margin. Coarse py in qz and jasper
13-Aug	1409322	438313	5347925	3.9	CHNL 3/3 re-cut of TBM 0.06oz/ton. 30cm Maf vol with jasper flooding + 3cm qz boudin. Coarse py in jasper (S wallrock)
13-Aug	1409323	438352	5347951	0.039	CHNL 1/1 close to TBM 0.064oz/ton. 30cm E-W cut across 110deg-trending shear-controlled 2mm qz veinlets
14-Aug	1409324	438214	5348112	0.024	CHNL 1/3 20cm sch maf vol, W-side wallrock of Au- bearing vein (sampled in 1409311)
14-Aug	1409325	438214	5348112	0.009	CHNL 2/3 10cm qz vein material, med py str on margins. Same vein as 1409311 (Au-bearing vein)
14-Aug	1409326	438214	5348112	0.006	CHNL 3/3 20cm sch maf vol, E-side wallrock of Au- bearing vein (sampled in 1409311)
14-Aug	1409327	438220	5348111	0.004	CHNL 1/3 30cm sch maf vol, W-side wallrock of qz vein (following sample)
14-Aug	1409328	438220	5348111	0.003	CHNL 2/3 10cm qz vein material
14-Aug	1409329	438220	5348111	0.003	CHNL 3/3 30cm sch maf vol, E-side wallrock of qz vein (previous sample)
14-Aug	1409330	438200	5348107	0.003	CHNL 1/1 30cm exploratory cut into strongly schistose maf/int vol. Contains 5mm-thick concordant siliceous bands
14-Aug	1409331	437806	5347897	0.003	CHNL 1/1 20cm cut over maf vol or tuffs, with concordant 2cm qz vein

# Appendix: 2

Legend to Maps in Figures 4, 5 and 6



## **APPENDIX 3: Photos**



Photo 1 - Part of the main outcrop showing a concordant shear band (top-bottom) with a crosscutting shear (left-right). Sample 1409310 was later taken from where they meet



Photo 2 - Nixon-Bartleman shaft, looking northwest, showing locations of the four shaft samples taken (1409311-4).



Photo 3 - Pyrite stringers in quartz and jasper flooding, from sample 1409321.



Photo 4: Photo of west face of shaft, annotated to show geological features

APPENDIX 4: Assay Certs



5623 MCADAM ROAD MISSISSAUGA, ONTARIO CANADA L4Z 1N9 TEL (905)501-9998 FAX (905)501-0589 http://www.agatlabs.com

#### CLIENT NAME: BILLIKEN MANAGEMENT SERVICES INC. 304-65 FRONT ST EAST TORONTO, ON M5E1B5 (416) 815-8666

ATTENTION TO: BRIAN NEWTON

PROJECT NO:

AGAT WORK ORDER: 14U876487

SOLID ANALYSIS REVIEWED BY: Yufei Chen, Lab Co-ordinator

DATE REPORTED: Aug 29, 2014

PAGES (INCLUDING COVER): 6

Should you require any information regarding this analysis please contact your client services representative at (905) 501-9998

\*NOTES

All samples are stored at no charge for 90 days. Please contact the lab if you require additional sample storage time.



# Certificate of Analysis

AGAT WORK ORDER: 14U876487 PROJECT NO: 5623 MCADAM ROAD MISSISSAUGA, ONTARIO CANADA L4Z 1N9 TEL (905)501-9998 FAX (905)501-0589 http://www.agatlabs.com

#### CLIENT NAME: BILLIKEN MANAGEMENT SERVICES INC.

#### ATTENTION TO: BRIAN NEWTON

	(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)								
DATE SAMPLED: Aug	15, 2014			DATE RECEI	/ED: Aug 15, 2014	DATE REPORTED: Aug 29, 2014	SAMPLE TYPE: Rock		
	Analyte:	Sample Login Weight	Au	Au-Grav					
	Unit:	kg	ppm	g/t					
Sample ID (AGAT ID)	RDL:	0.01	0.001	0.05					
1409301 (5695057)		1.00	0.008						
1409302 (5695058)		1.46	0.009						
1409303 (5695060)		1.06	0.422						
1409304 (5695061)		1.34	2.87						
1409305 (5695062)		1.00	0.004						
1409306 (5695064)		2.24	0.010						
1409307 (5695065)		3.50	0.005						
1409308 (5695066)		0.84	0.007						
1409309 (5695068)		0.88	0.003						
1409310 (5695069)		0.60	>10	9.41					
1409311 (5695070)		4.46	0.035						
1409312 (5695072)		2.40	0.093						
1409313 (5695073)		6.32	0.032						
1409314 (5695074)		2.18	1.91						
1409315 (5695075)		2.12	0.009						
1409316 (5695077)		0.88	0.433						
1409317 (5695078)		1.16	0.004						
1409318 (5695080)		2.56	1.69						
1409319 (5695081)		0.86	2.08						
1409320 (5695082)		0.72	0.085						
1409321 (5695084)		0.90	>10	22.1					
1409322 (5695085)		1.64	3.90						
1409323 (5695086)		1.52	0.039						
1409324 (5695087)		2.40	0.024						
1409325 (5695088)		2.18	0.009						
1409326 (5695090)		0.86	0.006						
1409327 (5695091)		1.62	0.004						
1409328 (5695092)		0.76	0.003						
1409329 (5695093)		1.30	0.003						
1409330 (5695095)		2.30	0.003						
1409331 (5695096)		1.86	0.003						

Certified By:

y. che

AGGAT Laboratories	Certificate of Analysis AGAT WORK ORDER: 14U876487 PROJECT NO:	5623 McADAM ROAD MISSISSAUGA, ONTARIO CANADA L4Z 1N9 TEL (905)501-9998 FAX (905)501-0589 http://www.agatlabs.com							
CLIENT NAME: BILLIKEN MANAGEMENT SERVICES INC.	ATTENTION TO: BRIAN NEWTON								
(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)									
DATE SAMPLED: Aug 15, 2014 DATE RECEIVED	2: Aug 15, 2014 DATE REPORTED: Aug 29, 2014	SAMPLE TYPE: Rock							
Comments: RDL - Reported Detection Limit									

Certified	By:
-----------	-----

y. che.



Quality Assurance - Replicate AGAT WORK ORDER: 14U876487 PROJECT NO: 5623 McADAM ROAD MISSISSAUGA, ONTARIO CANADA L4Z 1N9 TEL (905)501-9998 FAX (905)501-0589 http://www.agatlabs.com

#### CLIENT NAME: BILLIKEN MANAGEMENT SERVICES INC.

#### ATTENTION TO: BRIAN NEWTON

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)														
REPLICATE #1 REPLICATE #2														
Parameter	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD						
Au	5695057	0.008	0.016		5695074	1.91	1.79	6.5%						
Au-Grav									5695084	22.1	22.8	3.1%		



Quality Assurance - Certified Reference materials AGAT WORK ORDER: 14U876487 PROJECT NO: 5623 MCADAM ROAD MISSISSAUGA, ONTARIO CANADA L4Z 1N9 TEL (905)501-9998 FAX (905)501-0589 http://www.agatlabs.com

CLIENT NAME: BILLIKEN MANAGEMENT SERVICES INC.

#### ATTENTION TO: BRIAN NEWTON

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)														
	CRM #1 (ref.GSP7J)         CRM #2 (ref.1P5K)         CRM #3													
Parameter	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits		
Au	0.722	0.689	95%	90% - 110%	1.44	1.5	104%	90% - 110%						
Au-Grav									14.8	14.6	98%	95% - 105%		



# Method Summary

CLIENT NAME: BILLIKEN MANAGEMENT SERVICES INC.

#### AGAT WORK ORDER: 14U876487 ATTENTION TO: BRIAN NEWTON

PROJECT NO:		ATTENTION TO: BRIAN NEWTON				
PARAMETER	AGAT S.O.P	LITERATURE REFERENCE ANALYTICAL TECHNIQ				
Solid Analysis		•				
Sample Login Weight	MIN-12009		BALANCE			
Au	MIN-200-12006	BUGBEE, E: A Textbook of Fire Assaying	ICP-OES			
Au-Grav	MIN-200-12006		GRAVIMETRIC			