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**Ministry of Energy, Mines & Petroleum Resources**
Mining & Minerals Division
BC Geological Survey

**Assessment Report**
**Title Page and Summary**

**TYPE OF REPORT [type of survey(s)]:** Metallurgical

**TOTAL COST:** $4,082.44

**AUTHOR(S):** Doug Warkentin

**SIGNATURE(S):**

**NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):** N/A

**YEAR OF WORK:** 2015

**STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S):** 5542909- Feb 16-15, 5548945 - Mar 30-15, 5553316 - May 1-15
5556355 - Jun 1-15, 5560517 - Jun 30-15

**PROPERTY NAME:** Franklin

**CLAIM NAME(S) (on which the work was done):** Union Tails

**COMMODITIES SOUGHT:** Au, Ag

**MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:** 082ENE003

**MINING DIVISION:** Greenwood

**NTS/BCGS:** NTS: 082E09W

**LATITUDE:** 49 ° 33 ' 14 " **LONGITUDE:** 118 ° 21 ' 17 " (at centre of work)

**OWNER(S):**
1) Doug Warkentin
2)

**MAILING ADDRESS:**
7069 McBride Street
Burnaby, BC, V5E 1R1

**OPERATOR(S) [who paid for the work]:**
1) Crucible Resources Ltd.
2)

**MAILING ADDRESS:**
7069 McBride Street
Burnaby, BC, V5E 1R1

**PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):**
Jurassic, Eocene, Carboniferous-Permian, Penticton Group, Harper Ranch Group, Volcaniclastic Rocks, Granites,
Kettle River Formation, Marron Formation, Franklin Group, Limestone Skarns, Tailings

**REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:** 00637, 17273, 21768, 26306, 26440, 27328
27604, 27929, 28790, 29306, 33945, 34310, 34714, 34846

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| TYPE OF WORK IN THIS REPORT | EXTENT OF WORK (IN METRIC UNITS) | ON WHICH CLAIMS | PROJECT COSTS APPORTIONED (incl. support) |
|---|---|---|---|
| **GEOLOGICAL (scale, area)** | | | |
| Ground, mapping | | | |
| Photo interpretation | | | |
| **GEOPHYSICAL (line-kilometres)** | | | |
| Ground | | | |
| Magnetic | | | |
| Electromagnetic | | | |
| Induced Polarization | | | |
| Radiometric | | | |
| Seismic | | | |
| Other | | | |
| Airborne | | | |
| **GEOCHEMICAL (number of samples analysed for...)** | | | |
| Soil | | | |
| Silt | | | |
| Rock | | | |
| Other | | | |
| **DRILLING (total metres; number of holes, size)** | | | |
| Core | | | |
| Non-core | | | |
| **RELATED TECHNICAL** | | | |
| Sampling/assaying | 14 samples, ICP analysis, incl. prep. | Union Tails | 452.44 |
| Petrographic | | | |
| Mineralographic | | | |
| Metallurgic | 4 leaching tests | Union Tails | 3,630.00 |
| **PROSPECTING (scale, area)** | | | |
| **PREPARATORY / PHYSICAL** | | | |
| Line/grid (kilometres) | | | |
| Topographic/Photogrammetric (scale, area) | | | |
| Legal surveys (scale, area) | | | |
| Road, local access (kilometres)/trail | | | |
| Trench (metres) | | | |
| Underground dev. (metres) | | | |
| Other | | | |
| | | **TOTAL COST:** | $4,082.44 |

# Franklin Project

*Greenwood Mining Division*
*NTS 082E/08 and /09*

*Project Area Location:*
*UTM NAD 83: Zone 11, 402000 East, 5489500 North*

**Registered Owner: Doug Warkentin**
**Operator: Crucible Resources Ltd.**

## Union Tails Area – Metallurgical Testing Report

***Project Tenure Numbers:*** **1015696, 1016556, 1019846, 1019983, 1024505, 1028442, 1032615, 1032735, 1032842, 1033089, 1036687, 1036688, 1036689, 1036690, 1036691, 1036692.**

***SOW Event Numbers: 5542909, 5548945, 5553316, 5556355, 5560517.***

**June 16, 2015**

**Prepared By: Doug Warkentin, P.Eng**

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# Introduction

## Location and Access

The Franklin project lies along the Burrell Creek valley in the Christina Range of the Monashee Mountains of Southeast BC, approximately 65 km north of Grand Forks, BC. It covers part of the historic Franklin Camp, including the abandoned town sites of Franklin and Gloucester City. The general project location is shown in Figure 1.

The property consists of a contiguous grouping of MTO claims covering much of Mt. McKinley and Mt. Franklin, extending across Burrell Creek to the east and along Franklin Creek to the northwest. The project area is crossed by the Burrell Creek Forest Service Road (FSR) which is a well-maintained all-season two wheel drive accessible road which runs along the east side of the Burrell Creek Valley in the project area. Near the northeast boundary of the property a forestry spur road crosses Burrell Creek and splits into three branches, providing access to much of the western and north-western parts of the project area. These are recently active logging roads that mostly remain in good condition. The middle branch, accessing the upper part of Franklin Creek, has been decommissioned but remains passable by high clearance two-wheel drive vehicles. The other two branches, accessing the Mt. McKinley area south of Franklin Creek and the Gloucester Creek area to the north, appear to remain as active forestry roads and are in good condition where they pass through the project area.

The entire area was part of an active exploration and mining camp in the early part of the last century, and there are therefore also many overgrown and unmaintained roads and trails accessing old workings, particularly in the areas surrounding Mt. Franklin and the north side of Mt. McKinley.

The area is mountainous, with deep valleys to the west of the broader Burrell Creek Valley. The east-facing slopes tend to be steep, while west-facing slopes are gentler. The climate is generally dry in the summer and the terrain is generally tree-covered, but with relatively little underbrush.

## Tenure Information

The Franklin Project currently consists of 16 Mineral Titles Online claims with a total area of 1886 hectares. The project claims form a single contiguous block in an area covering the confluence of Franklin, Gloucester and Burrell Creeks, and covering much of Mt. McKinley and Mt. Franklin. It also extends to the northwest along Franklin Creek, including the Twin Creek and McDonald Creek areas. The project claims also include relatively small areas on the east side of Burrell Creek north of Dinsmore Creek and along the lower portion of Nichol Creek. Most of the project claims cover parts of the historically active Franklin mining camp, with a long history of past exploration and previous tenures. The area includes many reverted crown granted mineral claims that no longer hold title, along with a small number of crown grants that remain in good standing. The active crown grants principally cover the past producing Union and McKinley Mines, along with parts of the Homestake mine area. Together these claims exclude title to approximately 80 hectares of the total project area.

The claims are all owned by the author, and Crucible Resources Ltd. has an option to acquire 100% ownership of these claims. Claim details are shown in Table 1. Expiry dates shown in this table reflect the application of work described in this report.

Figure 2 outlines the tenures of the Franklin Project.


**Figure 1 – Franklin Project Location Map**

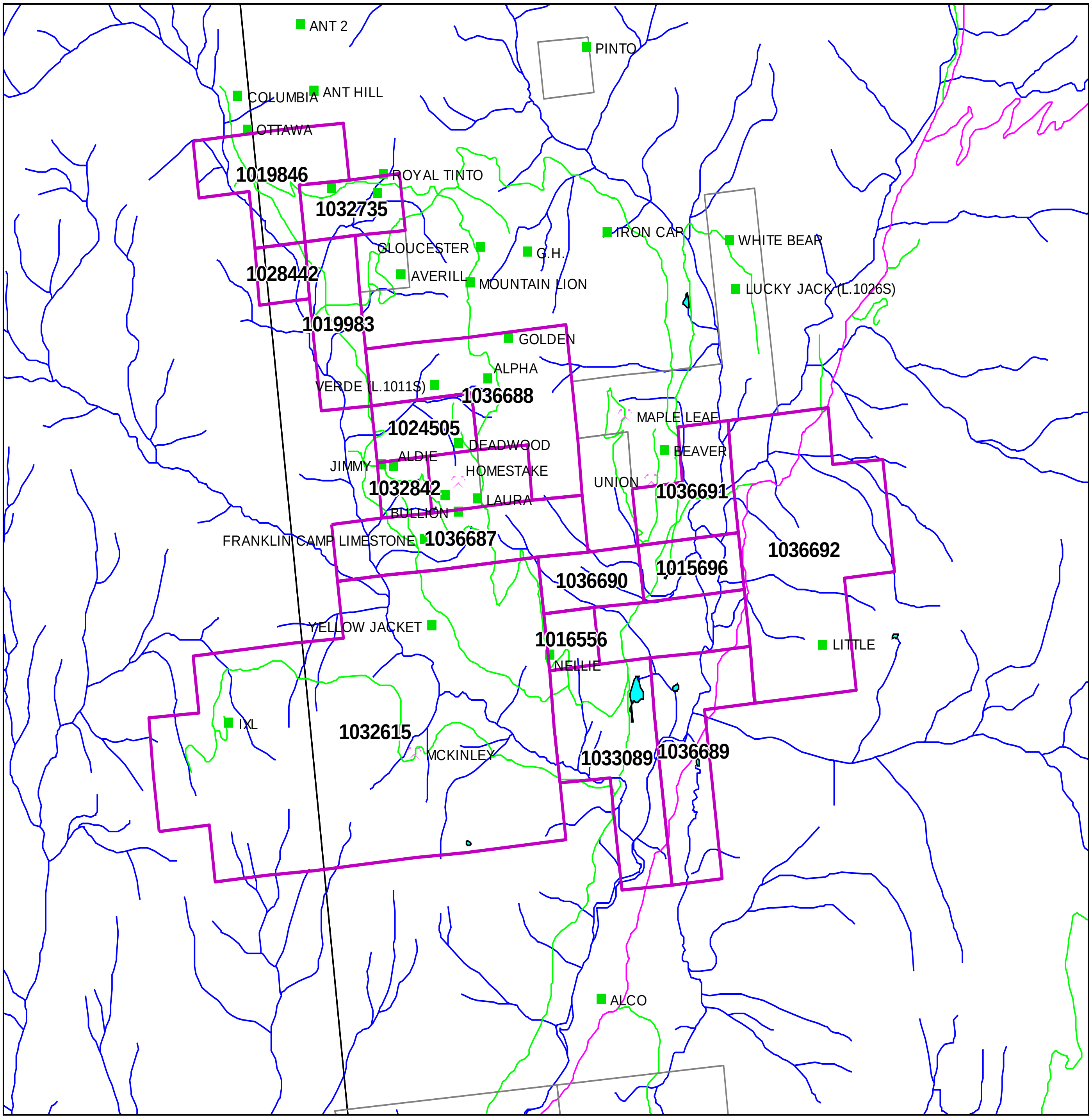



**Figure 2 – Project Tenure Outline**

**Table 1: Franklin Project Mineral Tenures**

| Title Number | Claim Name | Owner | Map Number | Issue Date | Good To Date | Area (ha) |
|---|---|---|---|---|---|---|
| 1015696 | UNION TAILS | 145582 (100%) | 082E | 2013/jan/04 | 2015/jul/31 | 41.92 |
| 1016556 | NELLIE | 145582 (100%) | 082E | 2013/feb/02 | 2015/jul/31 | 20.96 |
| 1019846 | AVERRILL NW | 145582 (100%) | 082E | 2013/may/28 | 2015/jul/31 | 83.77 |
| 1019983 | AVERILL SW | 145582 (100%) | 082E | 2013/jun/01 | 2015/jul/31 | 62.85 |
| 1024505 | TWIN CREEK | 145582 (100%) | 082E | 2013/dec/19 | 2015/jul/31 | 41.90 |
| 1028442 | AV W PT | 145582 (100%) | 082E | 2014/may/22 | 2015/oct/31 | 20.95 |
| 1032615 | MCKINLEY-IXL | 145582 (100%) | 082E | 2014/dec/08 | 2015/jul/31 | 712.69 |
| 1032735 | BUFFALO | 145582 (100%) | 082E | 2014/dec/14 | 2016/feb/25 | 41.89 |
| 1032842 | W BANNER | 145582 (100%) | 082E | 2014/dec/20 | 2016/feb/25 | 20.95 |
| 1033089 | FRANKLIN CR SE | 145582 (100%) | 082E | 2015/jan/03 | 2015/jul/31 | 125.78 |
| 1036687 | BULLION | 145582 (100%) | 082E | 2015/jun/12 | 2015/jul/31 | 104.78 |
| 1036688 | ALPHA TWIN | 145582 (100%) | 082E | 2015/jun/12 | 2015/jul/31 | 146.66 |
| 1036689 | DANE-NICHOL | 145582 (100%) | 082E | 2015/jun/12 | 2015/jul/31 | 104.82 |
| 1036690 | MT FRANKLIN | 145582 (100%) | 082E | 2015/jun/12 | 2015/jul/31 | 41.92 |
| 1036691 | UNION | 145582 (100%) | 082E | 2015/jun/12 | 2015/jul/31 | 62.87 |
| 1036692 | DANISH | 145582 (100%) | 082E | 2015/jun/12 | 2015/jul/31 | 251.49 |
| | | | | | **Total** | **1886.2** |

## Regional Geology

The Franklin Project covers much of the historic Franklin mining camp. The area is defined by major north-south regional faults that form a graben structure. The Granby fault, which runs to the east of the property, can be traced for more than 100 km to the south, where it forms the eastern boundary of the Republic graben in Washington State. In the Franklin camp area, this fault separates older metamorphic rocks to the east from younger intrusive rocks that surround and partly underlie the Franklin property.

While plutonic rocks are dominant regionally, the geology of the Franklin camp is more complex (Figure 3). The oldest rocks are a sequence of sediments, volcanics and related intrusives known locally as the Franklin Group. These are mapped as part of the Carboniferous Harper Ranch Group, and show strong similarities to the Brooklyn formation in the Greenwood-Grand Forks area (Caron 2004). This group includes argillite, conglomerate, chert, tuffaceous siltstone, limestone and greenstone, often showing significant alteration. The Franklin rocks are intruded by several distinct bodies of plutonic rock, including diorite/granodiorite from the Jurassic aged Nelson batholith and related bodies, as well as Jurassic aged porphyry dikes, the Jurassic Averill complex and the Eocene Coryell suite, including syenite stocks and lamprophyre dikes. Overlying the Franklin rocks and much of the intrusive rock are Eocene clastic sediments of the Kettle River formation. In addition to sandstones and conglomerates, these rocks include tuffs and some areas of rhyolite. These are in turn overlain by andesites and trachytes of the Eocene Marron formation, which mainly occur at higher elevations.

The Franklin rocks were the main focus of early exploration in the Mt McKinley and Mt Franklin areas, particularly for precious metal-bearing quartz veins and for silicified zones and skarn deposits with high base metal values along limestone contacts. Another type of mineralization identified in the early days of exploration was the so-called ‘Black Lead’ zones of shear hosted massive chalcopyrite with some PGM values. These tend to form small erratic pods along contact zones of the pyroxenite phase of the Averill plutonic complex. The Averill complex was originally correlated to the Eocene Coryell intrusives, but recent dating suggests a Jurassic age. The complex covers much of the north end of the Franklin camp and is a concentrically zoned differentiated intrusion with pyroxenite at its centre, grading outward through monzogabbro to monzonite, with trachytic syenite intruding the pyroxenite and monzogabbro along the axis of the pluton. The black lead mineralization generally occurs along the syenite-pyroxenite contacts.

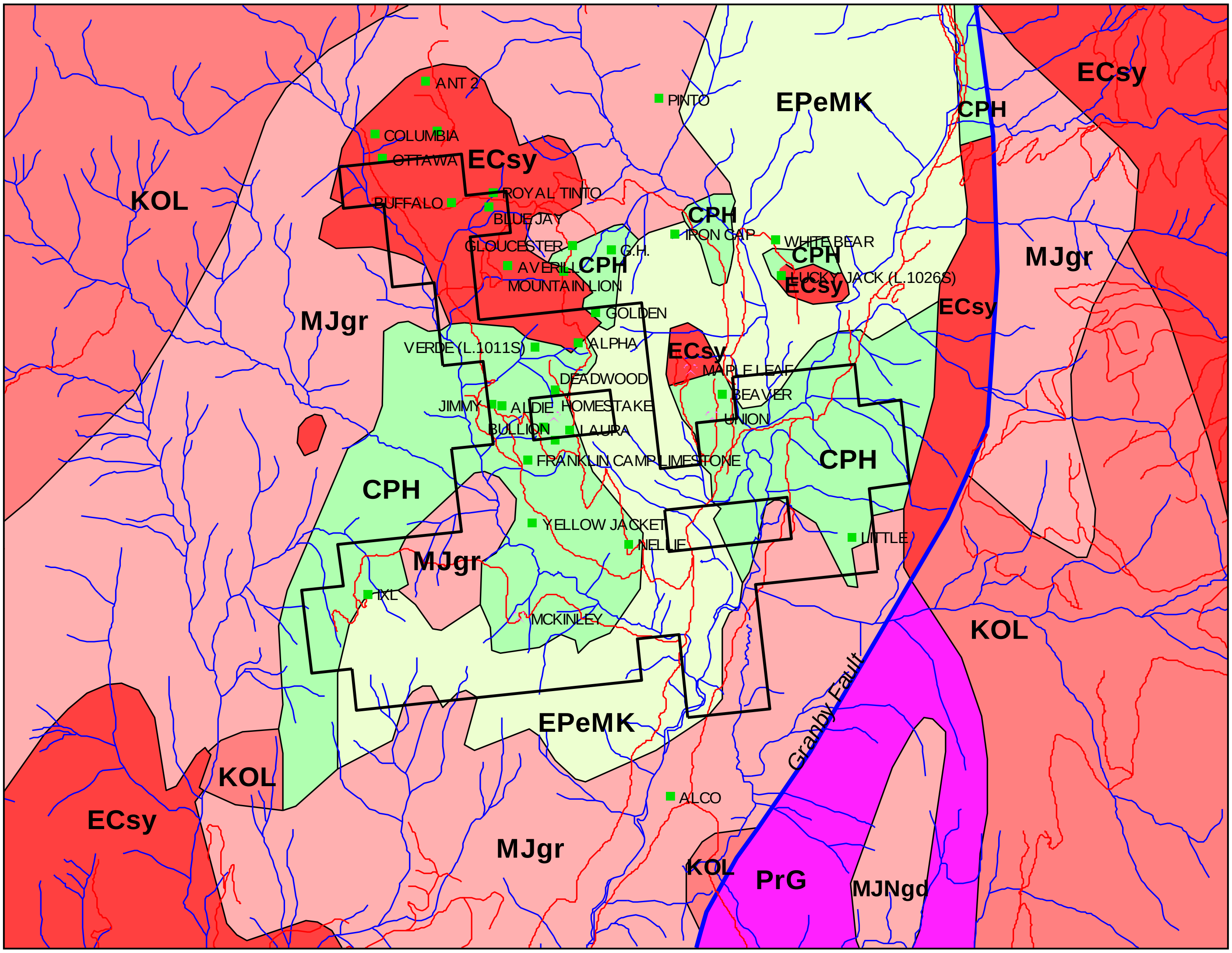
Other possible styles of mineralization have been identified in more recent exploration programs, including epithermal gold and volcanogenic massive sulphide (VMS). Several areas of epithermal-style alteration and veining have been identified associated with intrusive contact zones but no significant economic mineralization has yet been identified in these areas. There are also apparent intrusive contact zones associated with low-grade base metal mineralization that have seen very limited exploration. The potential for VMS mineralization is suggested by the correlation of the Franklin rocks with similar formations along the Granby fault to the south, where economic VMS deposits have been discovered in the Belcher district in Washington State.

**Local Geology**

The Franklin Property is primarily underlain by Franklin group rocks and the overlying Eocene sediments and volcanic rocks of the Kettle River and Marron formations. The property also includes significant intrusive contact zones in and around the Franklin rocks. To the northwest the project area covers part of the Averill complex, including several known occurrences of the ‘Black Lead’ mineralization and significant exposures of pyroxenite.

The project area partly overlaps the main historic producers in the camp, the Union and McKinley, and the other two historic producers, the Maple Leaf and the Homestake, both lie just outside the property boundary. While the actual mine workings are held by active crown granted claims, these are small and do not cover potential extensions or parallel zones. By far the most important ore zones discovered to date were at the Union Mine (see Table 3, below). The ore was a relatively low sulphide replacement-style vein with some adjacent zones of higher base metal sulphide content. The mineralization consisted of a zone of almost complete replacement of a limestone horizon in Franklin sediments which was later fractured into small irregular sections by multiple faults. Precious metal grades were highest at the intersections of these faults, indicating that the faulting also played a role in later mineralization.

Ore grades diminished with depth and to the east, and the vein was truncated by a larger fault to the west. More recent exploration has identified small ore remnants and unmined zones within the old workings, but no significant extensions of the mineralization have been found since active mining ceased in the 1940’s. Recent drilling to the west of the western fault boundary identified a silicified zone carrying anomalous precious metal values, but it is not clear whether this is an extension of the Union zone. Mill tailings are deposited within the Franklin property boundaries, to the south of the mine, and parts of these have been reprocessed on two separate occasions.




**CPH** – Carboniferous to Permian Harper Ranch Group – volcaniclastic rocks
**ECsy** – Eocene Coryell Plutonic Suite – syenitic to monzonitic intrusive rocks
**EPeMK** – Eocene Penticton Group: Marron, Kettle River, Springbrook, Marama and Skaha Formations – undivided volcanic rocks
**KOL** – Cretaceous Okanogan Batholith: Ladybird and Valhalla Intrusions – undivided intrusive rocks
**MJqr** – Middle Jurassic – granite, alkali feldspar granite intrusive rocks
**MJNqd** – Middle Jurassic Nelson Batholith – granodioritic intrusive rocks
**PrG – P**roterozoic Grand Forks Gneiss/Monashee Complex – paragneiss metamorphic rocks

**Figure 3 – Regional Geology, Franklin Camp Area**

A significant band of limestone runs through the Franklin Creek valley with a north-south orientation and is associated with the high grade skarn mineralization found at the McKinley mine. Other more poorly defined occurrences have also been identified along this trend and may indicate additional skarn mineralization. At the IXL showing to the west of the McKinley Mine, shallow zones of skarn-type mineralization have also been identified. This area has seen considerable modern exploration; including trenching and drilling that has identified significant zones of copper gold surface mineralization in Franklin group rocks and altered porphyry intrusives in contact with small bodies of Franklin limestone. Drilling has shown that some of the best exposures of surface mineralization are cut off at shallow depths by intrusive rocks, however the mineralized rocks are covered by Eocene sediments to the east and possible thickening in this direction has not yet been tested. In addition, at least one hole has shown more significant depths of lower grade copper-gold mineralization in both Franklin volcanics and porphyry intrusives.

In the Mt Franklin area numerous small quartz veins have been identified in Franklin rocks, some carrying significant gold and/or base metals. The best known occurrences in this area, the Homestake and the Banner, lie just outside the claim area, but several are also known within the project area. These include the Bullion and Verde showings as well as unnamed occurrences in the Twin Creek area. On the southeast flank of Mt Franklin pyrite, chalcopyrite and copper carbonate mineralization occurs in Franklin rocks near the contact with Eocene volcanics at the Nellie showing. This area reportedly shows evidence of hydrothermal alteration associated with nearby intrusives.

In the northwest part of the property the Franklin rocks are intruded by the Averill complex, and several occurrences of copper mineralization with platinum values were historically reported within the project boundaries. These include at least two styles of mineralization. The first type of occurrence is as shear zones along the pyroxenite contact at the Golden and Buffalo showings, which are typical of the Black Lead type of mineralization, while the second type consists of larger zones of pyroxenite carrying disseminated copper mineralization. This is the style at the Ottawa showing and may also be closely related to the Evening Star and Blue Jay showings, which are reported as disseminated copper in pyroxenite. The Buffalo showing may also include areas of this type of mineralization. The mineralization historically reported from the Averill complex has been primarily the Black Lead type, found in narrow and discontinuous shear zones along contact zones between pyroxenite and syenite, where copper, platinum and sometimes other precious metals appear to be concentrated by secondary hydrothermal enrichment. It has been suggested that the source of these values is enriched heavy mineral differentiated zones within the intrusive, likely within the pyroxenite phase. More recent work also points toward extensive low-grade copper mineralization within the pyroxenite, particularly where wider sections of pyroxenite are exposed in the northwest part of the complex.

To the east of Burrell Creek few mineral showings are reported, but recent work has identified at least one previously explored mineralized shear zone in Franklin volcanics not far from a contact with granodiorite intrusive rocks. The Dane showing includes significant gold values in addition to copper and silver values. High copper and silver values with minor to significant gold values is a more common pattern of mineralization to the south, normally occurring in east-west striking veins or shear zones. The highest value veins in the Mt. Franklin area are more typically associated with lead and zinc mineralization, also often with high silver values. To the south, in addition to the small east-west striking copper-bearing vein structures, there are showings of high grade contact mineralization, intrusive related copper-zinc and copper-molybdenum mineralization as well as epithermal-style vein systems in granodiorite which are locally reported to carry minor gold values.

A summary of all known showings occurring within the Franklin project claim area is included in Table 2.

**Table 2: Franklin Projects - Documented Mineral Occurences**

| Name | Minfile # | Location | Minerals | Reported Grades | Width (m) | Year |
|---|---|---|---|---|---|---|
| **Minfile showings** | | | | | | |
| Ottawa | 082ENE061 | Franklin Crk | Pt, Cu | 2.06 g/t Pt | grab | 1918 |
| Buffalo | 082ENE008 | McDonald Crk | Cu, Pt, Pd | 6.51 g/t Pt | grab | 1918 |
| Blue Jay | 082ENE054 | McDonald Crk | Ag, Cu | 2.7 g/t Ag, 0.24% Cu | grab | 1988 |
| Royal Tinto | 082ENE010 | McDonald Crk | Fe | | | |
| Verde | 082ENE020 | Twin Creek | Au, Ag, Cu, Pb, Zn | 5.5 g/t Au | grab | 1915 |
| Alpha | 082ENE052 | Mt. Franklin | Au, Ag, Cu | 0.68 g/t Au, 3.42 g/t Ag, 0.8% Cu | 1.5 m | 1965 |
| Golden | 082ENE053 | Mt. Franklin | Pt, Cu | 2.06 g/t Pt | grab | 1918 |
| Bullion | 082ENE013 | Mt. Franklin | Ag, Au, Cu, Pb, Zn | 1.1 g/t Au, 100 g/t Ag, 2.5% Pb | grab | 2003 |
| Jimmy | 082ENE042 | Mt. Franklin | Ag, Pb, Zn | 20.0 g/t Ag,1.94% Pb, 3.40% Zn | grab | 1988 |
| Yellow Jacket | 082ENE021 | Mt. Franklin | Cu, Pb, Zn | | | |
| Franklin Limestone | 082ENE062 | Mt. Franklin | Limestone | | | |
| Nellie | 082ENE059 | Mt. Franklin | Cu | | | |
| Little | 082ENE004 | Dinsmore Crk | Pb, Zn | 1.82 g/t Au, 1.9 g/t Ag | 0.07 | 2006 |
| IXL | 082ENE033 | Mt. McKinley | Cu, Au, Pb, Zn | 3.85 g/t Au, 0.8% Cu | 5.5 | 2003 |
| **Non-minfile occurences** | | | | | | |
| Dane | | Dane Crk | Au, Ag, Cu | 2.16 g/t Au, 162 g/t Ag, 5.7% Cu | grab | 2006 |
| Golden Zone | | Gloucester Crk | Au | | | |
| Mary Ann | | Gloucester Crk | Au | | | |
| Evening Star | | Franklin Crk | Pt, Cu, Au, Ag | $0.49 to $14.35 in Au, Cu and Ag | 2-400 m | 1906 |
| Last Chance | | Mt. McKinley | Au, Ag | 1.9 g/t Au, 13.5 g/t Ag, 0.1% Zn | grab | 2005 |
| Jack | | Mt. McKinley | Zn, Ag, Cu | 17.5 g/t Ag, 2.9% Pb, 6.5% Zn | grab | 2005 |

## Property History

The property has a long history of exploration, and some minor development. None of the recorded past producing mines of the Franklin camp are directly covered by the property, although the principal ones are located on small active crown-granted mineral claims that are partly or fully overlain by MTO claims that are part of the property. The property covers much of the historical Franklin camp, which was actively explored beginning in the 1890's, and was the source of minor base metal and significant precious metal production (Table 2) in the first half of the last century.

Exploration in the Franklin camp area began around 1896, when the first claims were staked. The camp was very active in the early 1900's when most of the principal showings were discovered and developed with small shafts and adits. As early as 1901 the Banner vein had seen considerable development and test shipments had been made, although there is no record of the production from that vein. During this same period considerable development occurred on the McKinley property and ore shipments may have been made during that period, although again there is no record of the production.

**Table 3. Historical Production from the Franklin Camp**

| Mine | Years of Operation | Production (tonnes) | Gold Production (ounces) | Historical Grades |
|---|---|---|---|---|
| Union | 1913-89 | 122,555 | 55,525 | 14.1 g/t Au, 353 g/t Ag, 0.2% Zn, 0.1% Pb, 0.01% Cu |
| Maple Leaf | 1915-16 | 36 | 2 | 1.7 g/t Au, 172 g/t Ag, 7.6% Cu |
| Homestake | 1940-41 | 453 | 223 | 15.3 g/t Au, 30.0 g/t Ag, 0.12% Zn, 0.06% Pb |
| McKinley | 1949 | 132 | 2 | 0.47 g/t Au, 215 g/t Ag, 17.1% Zn, 11.2% Pb |

The first actual recorded production from the camp came from the Maple Leaf prospect. In 1915 and 1916 two small shipments of copper ore were made. At the smelter this ore was found to carry an average of 8 g/t platinum, which resulted in new interest in the Franklin Camp for its PGM potential.

In 1918 the federal government's munitions department carried out an evaluation of the platinum potential of the entire camp following the identification of the metal in the shipments from the Maple Leaf mine. Numerous showings of copper from 'Black Lead' and pyroxenite zones were sampled, with grades ranging from less than 1 g/t to 13 g/t Pt, with the highest grades coming from the Maple Leaf workings. Samples from within the claim boundaries of the Franklin Project include a sample from a small shaft on the Golden claim, which assayed 2.06 g/t Pt, a sample from the shaft dump, assaying 6.51 g/t and another from open cuts assaying 2.74 g/t from the Buffalo claim, and a sample from large open cuts on the Ottawa claim that assayed 2.06 g/t. While there is limited information about the samples collected, the Ottawa showing has been described as open cuts exposing pyroxenite mineralized with disseminated copper. It is not known if the 1918 platinum sample came from a small concentration or from the broader disseminated mineralization.

The Union vein was discovered in 1913 when a silicified zone near earlier workings on a quartz vein carrying lead and zinc was found to be rich in gold and silver. Shipments of high grade ore began almost immediately from a large open cut, with adits later developed to access more of the ore. Development and small shipments continued from the Union vein until 1920, when operations were shut down due to the high cost of transporting ore to the smelter.

In 1927 Hecla Mining Company bonded the Union and Maple Leaf properties and began to develop milling ore on the Union vein. By 1929 a 145 ton per day concentrator had been constructed and milling operations began in 1930. Full mine production lasted until 1932, when most of the known ore had been mined out, and the mine closed in 1933. In that same year a cyanidation plant was constructed to retreat the tailings, which operated from 1934-36. Lease operators produced a small amount of additional ore between 1937 and 1942. During this same period a small amount of ore was also produced from the nearby Homestake mine.

In 1964 Franklin Mines Ltd acquired most of the Franklin camp and carried out geological and geophysical surveys along with limited sampling of old workings. This included sampling of the Alpha tunnel, within the current project area, which averaged 0.12% Cu and 1 g/t Ag over its entire 18 meter length, with the 3 meters before the face assaying 0.41% Cu, 5.1 g/t Ag and 0.69 g/t Au. They also mapped the Buffalo area and carried out detailed sampling of a 33 meter adit on the Buffalo claim. Samples showed minimal precious metals values, but there were copper values, including an average of 0.34% Cu over 12 meters of the tunnel toward the face.

In 1968 Newmont Exploration acquired part of the camp and carried out a work program which included airborne and ground geophysics, trenching and drilling of three holes at the IXL showing in 1969. Limited information is available regarding this work program, but in general, good mineralization was encountered in trenches but this same mineralization was not found in the drill core. One of the holes reportedly encountered ultramafic rocks with disseminated chalcopyrite, but this zone was not assayed.

In 1979 Pearl Resource acquired part of the camp, including the Union mine and surrounding area. Their work focused on the Union mine and included re-opening the lowest adit and a program of underground drilling in 1984.

In 1986 Longreach Resources Ltd acquired a large part of the Franklin camp and carried out an exploration program that included geochemical sampling, geophysical surveys and drilling of several targets, primarily aimed at platinum. The following year the property was renamed the Platinum Blonde property and optioned to Placer Development Limited who carried out additional drilling, prospecting and geochemical sampling over the entire property. This project was also focused mainly on PGM mineralization and the property primarily covered the northern part of the camp, overlapping much of the northern and north-western portions of the current Franklin project claims. This work identified several precious and base metal soil anomalies, some of which do not appear to have been fully investigated, including a strong and fairly extensive copper anomaly in the northwest, in an area likely underlain by a pyroxenite zone in the Averill complex rocks, and roughly corresponding to the areas of the historical Ottawa and Evening Star claims. Prospecting also resulted in several gold-bearing samples being collected in the Twin Creek area, including one assaying 16.8 g/t Au. No follow-up in this area is recorded.

From 1987 to 89 Sumac Ventures ran a heap leach operation on the Union mine tailings, reportedly recovering 13,300 grams of gold and about 400,000 grams of silver from 42,500 tonnes of tailings and waste rock. The operation appears to have been terminated due to operational difficulties rather than depletion of the available values.

In 1991 Canamax conducted an airborne geophysical survey over the IXL area along with rock and soil sampling. A new zone of low-grade copper mineralization in diorite was identified about 1.5 km south of the main IXL showing.

In 1993 and 94 Sway Resources drilled up to 29 short diamond drill holes and 14 percussion holes in the Banner-Homestake area and carried out rock and silt sampling, and diamond drilled 900 meters in 8 holes at the IXL showing, but available results of this work are very limited and poorly documented. Some high grade drill intercepts were reported to the west of the Homestake workings at the North Banner showing, as well as high grade surface samples from at least two separate locations on the Deadwood Crown Grant..

In 2001 Tuxedo Resources Ltd. acquired much of the south and west portions of the Franklin camp and an airborne geophysical survey was flown that year. In 2003 rock sampling, soil geochemistry, trenching and a small drill program were carried out in the IXL and Banner-Homestake areas. Good mineralization was encountered, but the extent was limited. In addition, there were at least one strong gold and base metal soil anomaly identified int eh North Deadwood area that has not been fully explored. A single drill hole showed significant widths of low grade gold mineralization below the IXL trenches.

In 2004 Solitaire Minerals carried out trenching and a limited drill program in the Union and Maple Leaf areas. Drilling failed to clearly identify a western extension of the Union vein, but a promising silicified zone carrying anomalous precious metal values was intersected under a cap of overlying volcanic rocks. Work on the Maple Leaf crush zone, to the north of the old Maple Leaf workings, identified low grade gold mineralization with intermittent bands of high grade base metal mineralization that also carried higher gold grades.

Also in 2004, New Cantech Ventures conducted an 11 hole, 1741 meter drill program at the IXL showing, indicating that encouraging surface mineralization encountered in trenches was generally cut off at shallow depths by feldspar porphyry and syenite intrusions. Follow-up work in 2005 by Nanika Resources Inc. found evidence of new mineralized zones to the east, near the McKinley mine, mainly based on samples showing good zinc grades, but also occasional samples with good copper, silver and gold grades at the Jack and Last Chance showings. No follow-up work was reported.

In 2006 and 2007 Yankee Hat Minerals conducted limited rock sampling and prospecting in the Dane and Little area and conducted an airborne geophysical survey covering much of the Franklin camp, including some less-explored areas to the east of Burrell Creek. Few strong targets were identified with the exception of a relatively strong conductivity target to the south of the Dane showing. A small subcrop sample of gold in quartz was also found somewhat further to the south, a few hundred meters northwest of the probable location of the Little showing.

Sampling by Crucible Resources between 2012 and 2014 confirmed the presence of high grade copper-gold-silver mineralization at the Dane showing, and soil sampling showed some anomalous base metal values in the same area. Copper-gold mineralization was identified at the Nellie showing, and in the northwest multiple occurrences of low grade copper mineralization were found, with some showing minor precious metal values as well. The old Union tailings were sampled to estimate remaining values with positive results and limited quantities of mineralized waste rock or ore were also found to be stockpiled near the tailings site.

### Summary of Work

Based on previous sampling of the Union tailings, a composite sample was prepared and a small program of metallurgical testing was carried out to provide an initial evaluation of the precious metal recovery potential using alternative leaching methods with low environmental impacts. The methods chosen made use of reagents described in literature as suitable for gold leaching, without the use of cyanide. Four leach tests were completed using sulphur and/or salt based leaching solutions, with the objective of extracting gold and silver into the leach solution. In addition to allowing comparison of the different leaching methods, results provided insight into the accessibility of the remaining precious metal minerals in the tailings and confirmation of the grade of the prepared composite. Some evaluation of analytical variability expected from the tailings was also included.

Some limited success was obtained from these tests, including higher than expected calculated head grades. Based on work to date, there are significant recoverable values remaining in the Union Mine tailings and preparation was therefore made for further testing and evaluation.

## Work Program

### Testing and Data Collection

Testwork was carried out using representative sub-samples of a previously prepared composite sample of Union mine tailings. The composite was prepared from a series of grab samples collected in 2013 from various locations on the Union tailings site. Relevant original sample locations are identified on the map in Appendix 1. Original assay results for individual tailings samples, along with analytical results for the prepared composite sample head and back-calculated head grades from metallurgical testing, are summarized in Table 4. Complete test reports for each metallurgical test are included in Appendix 2. Each report details test conditions, and includes a mass balance for targeted metals. Assay reports are included in Appendix 2. All leach test residues were washed, filtered, dried and weighed before being submitted for analysis. Leach solutions were filtered, weighed and a 10 ml sub-sample was withdrawn and submitted for a 34 element ICP-ES analysis. Solid samples were digested in aqua regia using a 0.5 gram sample and analyzed with a 36 element scan by ICP-MS. All solid sample analyses were carried out by Bureau Veritas Commodities Canada Ltd (formerly Acme Analytical Laboratories Ltd.) in Vancouver. Solution analyses were carried out by Kemetco Research Inc. in Richmond, BC, which is also where the leach testing was conducted.

The tests carried out are described below.

**Table 4 - Summary of Composite Sample and Calculated Test Heads**

| Sample # | Date | Description | Width (m) | Au g/t | Ag g/t | Cu % | Pb % | Zn % |
|---|---|---|---|---|---|---|---|---|
| | **Union Area - Tailings Samples** | | | | | | | |
| CR130704-T1 | 04/07/2013 | Tailings pile 1 - southwest (0.3 m depth) | | 1.73 | 87.7 | 0.009 | 0.03 | 0.06 |
| CR130704-T2 | 04/07/2013 | Tailings pile 2 - crest | | 1.32 | 66.0 | 0.007 | 0.02 | 0.05 |
| CR130704-T3 | 04/07/2013 | Tailings pile 3 - lower slope | | 1.22 | 60.0 | 0.009 | 0.02 | 0.06 |
| CR130704-T4 | 04/07/2013 | Tailings pile 3 - northeast slope | | 0.24 | 16.2 | 0.005 | 0.02 | 0.06 |
| CR130704-T6 | 04/07/2013 | Tailings pile 1 - northeast | | 2.10 | 79.5 | 0.006 | 0.01 | 0.04 |
| FRT Comp | 02/05/2014 | Union Tailings Composite | | 1.20 | 57.8 | 0.008 | 0.02 | 0.06 |
| | **Tailings Leach Tests - Calculated Heads** | | | | | | | |
| FRT-L1 | 24/02/2015 | Chloride leach | | 1.89 | 49.6 | - | 0.02 | 0.06 |
| FRT-L2 | 03/03/2015 | High pH chloride leach | | 0.91 | 52.7 | - | 0.02 | 0.06 |
| FRT-L3 | 19/03/2015 | Polysulphide leach 1 | | 1.49 | 53.1 | - | 0.02 | 0.06 |
| FRT-L4 | 01/05/2015 | Polysulphide leach 2 | | 1.53 | 45.6 | - | 0.02 | 0.06 |

*Union Tailings Composite Preparation*

A series of 5 samples were collected from the Union tails site during a site visit in 2013. These samples (CR130704-T1 to CR130704-T4 and CR130704-T6) were from widely distributed locations within the tailings, which are stacked in a series of piles on the site. Each sample was 1-2 kg and each was taken from approximately 15-30 cm below surface to avoid surface contamination. These samples were each previously analyzed, with gold grades ranging from 0.2 to 2.1 g/t (Table 4).

The bulk of the samples were then composited to produce a single large tailings sample, which was homogenized and then split with a riffle splitter into representative test lots of approximately 1 kg each. A composite head sample was also split out for assay (‘FRT Comp’ – Table 4). The head assay for the composite was 1.2 g/t Au and 58 g/t Ag, which was slightly below the average of the individual samples. Base metal values in these tailings are low. A particle size distribution for the composite showed a $P_{80}$ size of approximately 95 microns, but also more than 50% of the composite material was finer than 400 mesh (38 microns), indicating that handling of very fine material would be an important factor in any processing method.

To facilitate an initial scoping test program of alternative leaching systems, a small split sub-sample was further riffle-split to produce five representative samples of approximately 100 grams each for comparative tests.

*Union Tails Composite Leach Testing*

The initial approach with these tailings was to look at potential low-environmental-impact alternatives to cyanide leaching. These tailings have already been partially treated at least twice using cyanide extraction, the most recent time being a heap-leach style operation run by Sumac Ventures in the late 1980's. This last operation was reportedly ended at least in part due to environmental concerns with the cyanide leach operation, and site remediation work was required afterward. It is therefore unlikely that a similar operation would again be allowed at the site, so any potential retreatment would need to consider a different approach that provided a lower risk of contamination. Due to the relatively low tonnage and limited values the method would also need to be suited to low capital and operating costs.

Many alternatives to cyanide have been proposed in literature, and some have even seen limited commercial use, but no one method has yet been demonstrated as being a generally applicable alternative, so any alternative method would need to be developed to suit the particular application. As these tailings are low in base metals and sulphides, two neutral to high pH methods were chosen for the initial investigation. These were alkaline chloride and polysulphide leaching methods, both of which also use simple biodegradable reagents that would also be readily recycled in a treatment process. Test reports for all four tests completed are included in Appendix 2.

Test L1

The first test was an alkaline chloride leach using common salt (NaCl) and ammonium chloride ($NH_4Cl$) as chloride sources and ammonia ($NH_4OH$) as the source of alkalinity. The test was run for a planned length of 72 hours as a bottle roll with a 50% pulp density. This was the only one of the four tests that showed significant gold leaching, including a value of 1.5 mg/l Au in one solution sample, which at 50% solids equates to approximately 1.5 g/t Au extracted from the solids. The final solution value was less (0.6 mg/l), but the overall test balance resulted in a calculated head of nearly 1.9 g/t and final gold extraction of 57%. Silver was also leached, but extraction was very low, at about 6%, and the calculated head was slightly lower than the composite assay (50 vs. 58 g/t).

Test L2

The second test was a variation on the chloride chemistry used in the first test. All conditions were the same with the exception of the addition of 1 M (40 g/l) of NaOH to create a very high-alkaline environment (pH >13 compared with a pH of 10.5-11 in test L1). This change had a strongly negative effect on the results, with no gold or silver leaching detected. The calculated head grade was also low in this test (0.9 g/t Au).

Test L3

The first polysulphide leaching test used sodium hydrosulphide (NaHS) and sulphur to produce polysulphides, with ammonia ($NH_4OH$) addition for pH control, maintaining the pH at approximately 12. This test was shorter than the others (25 hours), but there was no indication in the results that extraction increased beyond the first few hours. While this test was unsuccessful in leaching gold, silver extraction was significantly improved, at 21%. Residue assays also indicated higher gold values than the composite head, at 1.5 g/t, and the calculated silver head was closer to the assayed value than in other tests, at 53 g/t.

Test L4

The final test covered by this report used similar polysulphide chemistry to test L3, but used hydrated lime ($Ca(OH)_2$) rather than ammonia to control the pH in the range of 11-12. The results were very similar to test L3, with no gold detected in the leach solution and only silver recovered to any appreciable degree. This test was run longer than L3, with the recovered silver showing a decline over time, indicating that whatever leaching was achieved occurs quickly, followed by slow re-precipitation. This appeared to show that the leaching reagent was unstable under these conditions.

### Interpretation of Results

These tests were only a preliminary evaluation of two of the alternative .extraction methods for the precious metals remaining in the Union tailings. Results differed greatly among the four tests, with chloride being more successful with gold and polysulphide showing better results for silver. In general, however, only the first test, using chloride chemistry with low alkalinity showed significant promise.

This test was most effective for gold, but some minor leaching of silver was also seen, indicating that further optimization may be possible. Final gold recovery of 57% may also have been deceptively low, as an earlier sample gave a much higher gold value, suggesting re-precipitation. While this implies that the gold complex formed may not be very stable, it also indicates that the leaching occurs quickly, so that a much shorter retention time may be of benefit, resulting in both improved recovery and reduced plant costs. Further follow-up and optimization of this type of leaching would appear to be justified, and may provide an option for economic processing of low grade resources such as these tailings.

The higher calculated head grades seen in seen in some of these tests is an indication of sample variability and possible nugget effect from particulate gold. Evaluating the economic potential remaining in these tailings and the mineralized waste rock also present at the site, will depend on more detailed sampling and likely the use of metallurgical methods for pre-concentration to enhance the reliability of gold assays representing larger samples.

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## Author's Qualifications

I, Douglas Warkentin, P.Eng., a professional engineer with a business address at 745 East 30th Ave., Vancouver, B.C., certify that:

I have been a Registered Member of the Association of Professional Engineers and Geoscientists of the Province of British Columbia since 1992.

I am a graduate of the University of British Columbia, Vancouver, B.C. and hold a degree of Bachelor of Applied Science in Mining and Mineral Process Engineering.

I have practiced my profession as a Metallurgist and Mineral Process Engineer for 27 years.

I am currently employed as a Metallurgical Engineer by Kemetco Research Inc., Vancouver B.C., and have previously been employed as a Mineral Process Engineer by Vista Mines Inc., Coastech Research Inc., NTBC Research Corp., Biomet Mining Ltd., Blue Sky Mines Ltd., and Vizon Scitec Inc. I have also served as a Director of Duncastle Gold Corp., a TSX-Venture listed company.

Since 2001 I have acted as an independent engineering consultant for a number of mining clients.

I am a qualified person for the purposes of National Instrument 43-101 in relation to metallurgical testing and evaluation programs.

I directly conducted or supervised all sampling, sample handling and preparation related to the Franklin Project that is described in this report.

I am the sole author of this report.

I am not aware of any material fact or material change with respect to the subject matter of this technical report that is not reflected in this report, the omission to disclose which would make this report misleading.

Dated at Vancouver, B.C., this 15th day of June 2015.

Doug Warkentin, PEng.
Metallurgical Engineer

## Statement of Costs

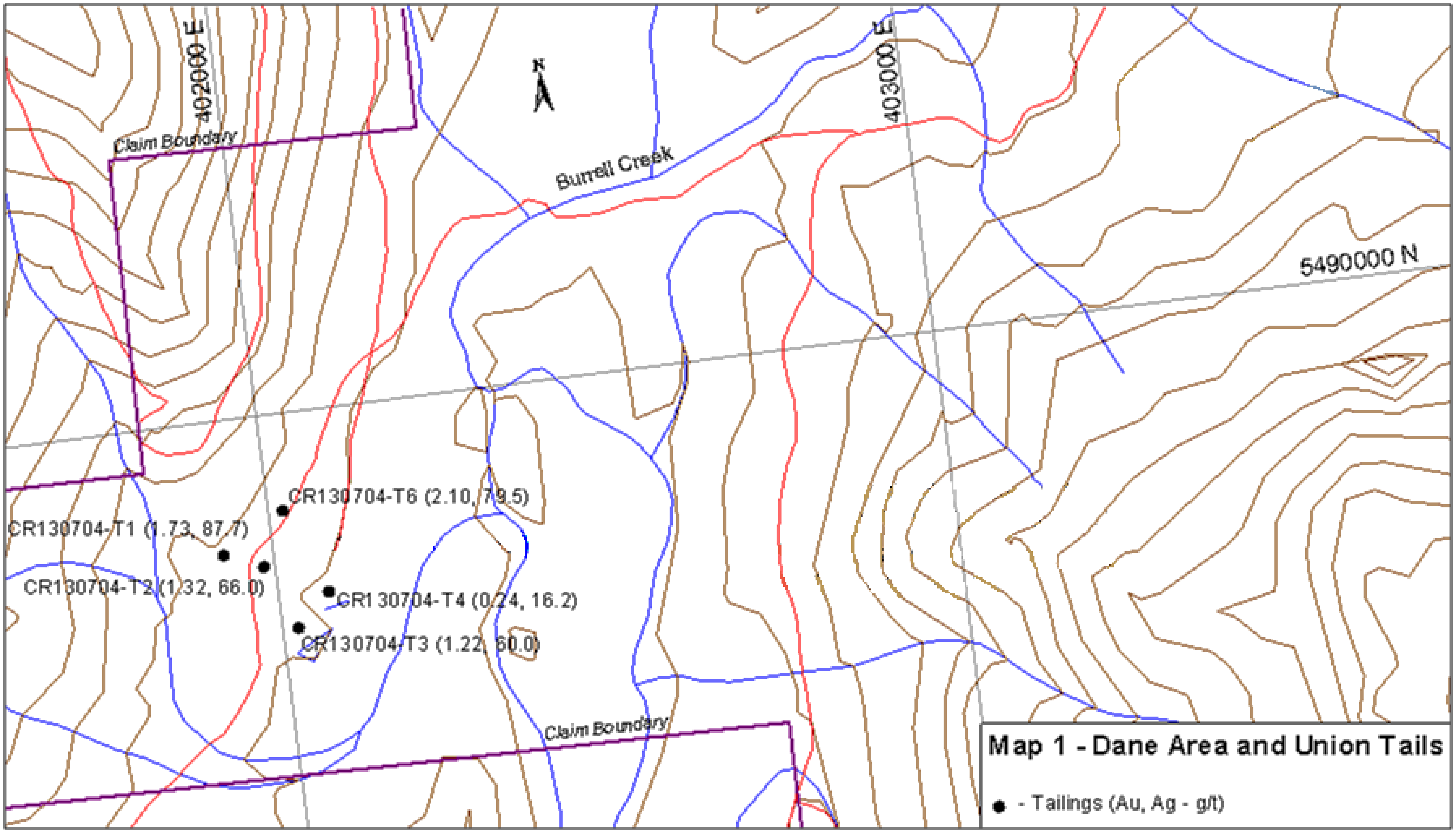
### Metallurgical testing

| | |
|---|---|
| Sample Preparation, Test Design and Analysis<br>(Doug Warkentin, P.Eng: 8 hours @ $55/hr) | $440.00 |
| Metallurgical Testwork<br>(Doug Warkentin, P.Eng.: 40 hours @$55/hr) | $2200.00 |

### Sample Analysis

| | |
|---|---|
| Sample Preparation (4 samples @ $9.85/sample) | $39.39 |
| Sample Assaying (3 samples @ $21.02/sample)<br>(10 samples @ $35/sample) | $413.05 |
| **Data Compilation and Report Preparation** | $990.00 |
| **Total Cost** | **$4,082.44** |

## Appendix 1 – Sample Location Map


402000 E
403000 E
5490000 N
Claim Boundary
Burrell Creek
CR130704-T6 (2.10, 79.5)
CR130704-T1 (1.73, 87.7)
CR130704-T2 (1.32, 66.0)
CR130704-T4 (0.24, 16.2)
CR130704-T3 (1.22, 60.0)
Claim Boundary
Map 1 - Dane Area and Union Tails
- Tailings (Au, Ag - g/t)

Scale 1:9,000

# Appendix 2 – Metallurgical Test Reports

CRUCIBLE

Crucible Resources Ltd. 745 East 30th Ave. Vancouver, BC Canada V5V 2V8 Tel: 604 788 4478

**Extraction Test Report**

**Test:** L1
**Sample:** FRT Comp #1

**Date:** 24-Feb-15
**Project:** I0603

**Test Conditions**

| | |
|---|---|
| Solids: | 109.27 g |
| Solution: | 110 g |
| Solids Content: | 49.83 % |
| Grind Size: | as rec |
| Temp: | amb. (15 °C) |
| pH: | alk |
| Duration: | 72 hrs |

**Notes:** Baseline NH4Cl/NH4OH/NaCl w CuSO4

Tare: 95.61 g

**Head Grade**

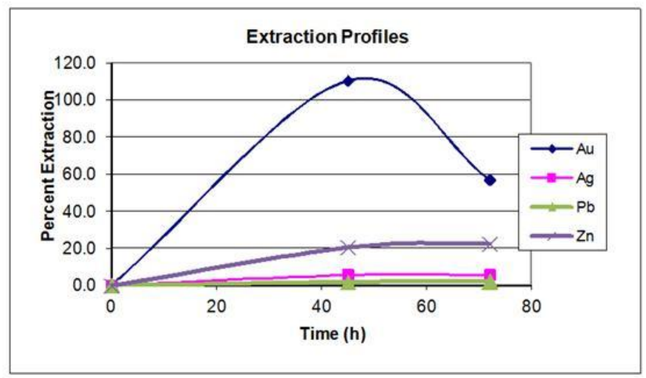
| | Au | Ag | Pb | Zn | |
|---|---|---|---|---|---|
| Calculated: | 1.89 | 49.6 | 185 | 582 | g/t |
| Assayed: | 1.20 | 57.8 | 227 | 555 | g/t |

**Leach Solution Data**

| Time (hrs) | Gr. Wt. (g) | Slurry (g) | pH | $CuSO_4$* (g) | $NH_4OH$ (g) | $NH_4Cl$ (g) | NaCl (g) | Sol'n Vol. (mL) | Sample (mL) | Au (mg/L) | Ag (mg/L) | Pb | Zn | Au (mg) | Ag (mg) | Pb (mg) | Zn (mg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 358.9 | 263.3 | | 0.86 | 7.7 | 2.9 | 12.9 | | | | | | | | | | |
| 45 | 358.9 | 263.3 | 10.71 | | | | | 150 | 12.5 | 1.5 | 2.1 | 2.5 | 87.1 | 0.229 | 0.3 | 0.4 | 13.1 |
| 72 | 363.6 | 268.0 | 10.53 | | | | | 155 | | 0.6 | 1.9 | 2.5 | 85.6 | 0.118 | 0.3 | 0.4 | 14.3 |
| Total | | | | 0.86 | 7.70 | 2.93 | 12.87 | | | | | | | | | | |

**Solids**

| Time (hrs) | Wt (g) | Au (g/t) | Ag (g/t) | Pb (g/t) | Zn (g/t) | Au (mg) | Ag (mg) | Pb (mg) | Zn (mg) |
|---|---|---|---|---|---|---|---|---|---|
| 72 | 108.88 | 0.8138 | 46.9 | 181.4 | 452 | 0.089 | 5.1 | 19.8 | 49.2 |




**Leach Results**

| Time (hrs) | Au Dist. (%) | Ag Dist. (%) | Pb Dist. (%) | Zn Dist. (%) | $CuSO_4$ Cons. (kg/t) | $NH_4OH$ Cons. (kg/t) | $NH_4Cl$ Cons. (kg/t) | NaCl Cons. (kg/t) |
|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.87 | 70.47 | 26.81 | 117.8 |
| 45 | 110.5 | 5.7 | 1.8 | 20.6 | 7.87 | 70.47 | 26.81 | 117.8 |
| 72 | 57.1 | 5.8 | 2.1 | 22.6 | 7.87 | 70.47 | 26.81 | 117.8 |
| Residue | 42.9 | 94.2 | 97.9 | 77.4 | | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | | | | |

* $CuSO_4.5H_2O$

CRUCIBLE

Crucible Resources Ltd. 745 East 30th Ave. Vancouver, BC Canada V5V 2V8 Tel: 604 788-4478

## Extraction Test Report

**Test:** L2
**Sample:** FRT Comp #1

**Date:** 03-Mar-15
**Project:** I0603

### Test Conditions

Solids: 100.72 g
Solution: 100 g
Solids Content: 50.18 %
Grind Size: as rec
Temp: amb. (15 °C)
pH: high alk (+4.00 g NaOH)
Duration: 72 hrs

**Notes:** High pH version of L1

Tare: 95.61 g

### Head Grade

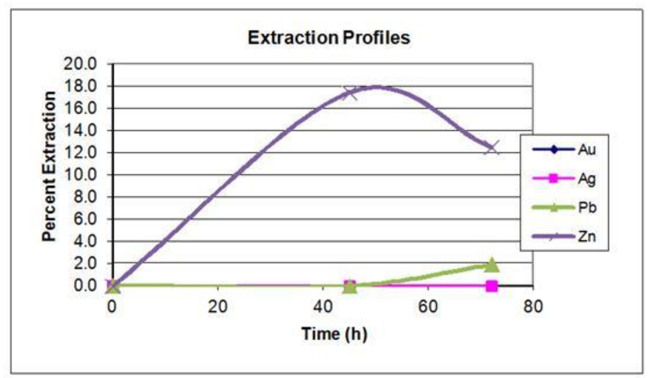
| | Au | Ag | Pb | Zn | |
|---|---|---|---|---|---|
| Calculated: | 0.91 | 52.7 | 171 | 551 | g/t |
| Assayed: | 1.20 | 57.8 | 227 | 555 | g/t |

### Leach Solution Data

| Time (hrs) | Gr. Wt. (g) | Slurry (g) | pH | $CuSO_4$** (g) | $NH_4OH$ (g) | $NH_4Cl$ (g) | NaCl (g) | Sol'n Vol. (mL) | Sample (mL) | Au* (mg/L) | Ag* (mg/L) | Pb* | Zn | Au (mg) | Ag (mg) | Pb (mg) | Zn (mg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 340.1 | 244.5 | 5.5 | 0.39 | 7.0 | 2.7 | 11.7 | | | | | | | | | | |
| 45 | 345.6 | 250.0 | 13.67 | 0.39 | | | | 142 | 11.1 | 0.0 | 0.0 | 0.0 | 68.2 | 0.0 | 0.0 | 0.0 | 9.7 |
| 72 | 351.2 | 255.6 | 13.70 | | | | | 149 | | 0.0 | 0.0 | 2.3 | 41.6 | 0.0 | 0.0 | 0.3 | 6.9 |
| Total | | | | 0.78 | 7.00 | 2.66 | 11.70 | | | | | | | | | | |

### Solids

| Time (hrs) | Wt (g) | Au (g/t) | Ag (g/t) | Pb (g/t) | Zn (g/t) | Au (mg) | Ag (mg) | Pb (mg) | Zn (mg) |
|---|---|---|---|---|---|---|---|---|---|
| 72 | 100.82 | 0.91 | 52.6 | 167.5 | 482 | 0.1 | 5.3 | 16.9 | 48.6 |




### Leach Results

| Time (hrs) | Au Dist. (%) | Ag Dist. (%) | Pb Dist. (%) | Zn Dist. (%) | $CuSO_4$ Cons. (kg/t) | $NH_4OH$ Cons. (kg/t) | $NH_4Cl$ Cons. (kg/t) | NaCl Cons. (kg/t) |
|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.87 | 69.50 | 26.41 | 116.2 |
| 45 | 0.0 | 0.0 | 0.0 | 17.4 | 7.74 | 69.50 | 26.41 | 116.2 |
| 72 | 0.0 | 0.0 | 1.9 | 12.5 | 7.74 | 69.50 | 26.41 | 116.2 |
| Residue | 100.0 | 100.0 | 98.1 | 87.5 | | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | | | | |

* Values below detection limit shown as zero
** $CuSO_4.5H_2O$

CRUCIBLE

Crucible Resources Ltd. 745 East 30th Ave. Vancouver, BC Canada V5V 2V8 Tel: 604 78-4478

## Extraction Test Report

**Test:** L3
**Sample:** FRT Comp #1

**Date:** 19-Mar-15
**Project:** I0603

### Test Conditions

| | |
|---|---|
| Solids: | 105.33 g |
| Solution: | 100 g |
| Solids Content: | 51.30 % |
| Grind Size: | as rec |
| Temp: | amb. (15 °C) |
| pH: | alk |
| Duration: | 72 hrs |

**Notes:**

Tare: 95.63 g

### Head Grade

| | Au | Ag | Pb | Zn | |
|---|---|---|---|---|---|
| Calculated: | 1.49 | 53.1 | 176 | 553 | g/t |
| Assayed: | 1.20 | 57.8 | 227 | 555 | g/t |

### Leach Solution Data

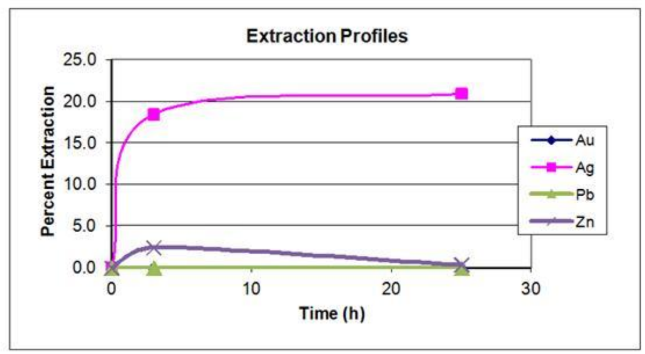
| Time (hrs) | Gr. Wt. (g) | Slurry (g) | pH | $CuSO_4$** (g) | $NH_4OH$ (g) | $NaHS.H_2O$ (g) | S° (g) | Sol'n Vol. (mL) | Sample (mL) | Au* (mg/L) | Ag* (mg/L) | Pb* (mg/L) | Zn (mg/L) | Au (mg) | Ag (mg) | Pb (mg) | Zn (mg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 343.0 | 247.4 | 11.9 | | 7.0 | 8.1 | 3.3 | | | | | | | | | | |
| 3 | 343.0 | 247.4 | 11.8 | 0.04 | | | | 136 | 7.0 | 0.0 | 7.6 | 0.0 | 10.5 | 0.0 | 1.0 | 0.0 | 1.4 |
| 25 | 415.8 | 320.2 | 11.7 | | | | | 213 | | 0.0 | 5.3 | 0.0 | 0.7 | 0.0 | 1.2 | 0.0 | 0.2 |
| Total | | | | 0.04 | 7.00 | 8.06 | 3.31 | | | | | | | | | | |

### Solids

| Time (hrs) | Wt (g) | Au (g/t) | Ag (g/t) | Pb (g/t) | Zn (g/t) | Au (mg) | Ag (mg) | Pb (mg) | Zn (mg) |
|---|---|---|---|---|---|---|---|---|---|
| 26 | 105.12 | 1.49 | 42 | 176 | 552 | 0.2 | 4.4 | 18.5 | 58.0 |

### Leach Results

| Time (hrs) | Au Dist. (%) | Ag Dist. (%) | Pb Dist. (%) | Zn Dist. (%) | $CuSO_4$ Cons. (kg/t) | $NH_4OH$ Cons. (kg/t) | $NaHS.H_2O$ Cons. (kg/t) | S° Cons. (kg/t) |
|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 66.46 | 76.52 | 31.43 |
| 3 | 0.0 | 18.5 | 0.0 | 2.5 | 0.37 | 66.46 | 76.52 | 31.43 |
| 25 | 0.0 | 21.0 | 0.0 | 0.4 | 0.37 | 66.46 | 76.52 | 31.43 |
| Residue | 100.0 | 79.0 | 100.0 | 99.6 | | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | | | | |




* Values below detection limit shown as zero
** $CuSO_4.5H_2O$

CRUCIBLE

Crucible Resources Ltd. 745 East 30th Ave. Vancouver, BC Canada V5V 2V8 Tel: 604 788-4478

**Extraction Test Report**

**Test:** L4
**Sample:** FRT Comp #1

**Date:** 01-May-15
**Project:** I0603

**Test Conditions**

Solids: 104.33 g
Solution: 105 g
Solids Content: 49.84 %
Grind Size: as rec
Temp: amb. (15 °C)
pH: alk
Duration: 72 hrs

**Notes:**

Tare: 93.9 g

**Head Grade**

| | Au | Ag | Pb | Zn | |
|---|---|---|---|---|---|
| Calculated: | 1.53 | 45.6 | 180 | 566 | g/t |
| Assayed: | 1.20 | 57.8 | 226.5 | 555 | g/t |

**Leach Solution Data**

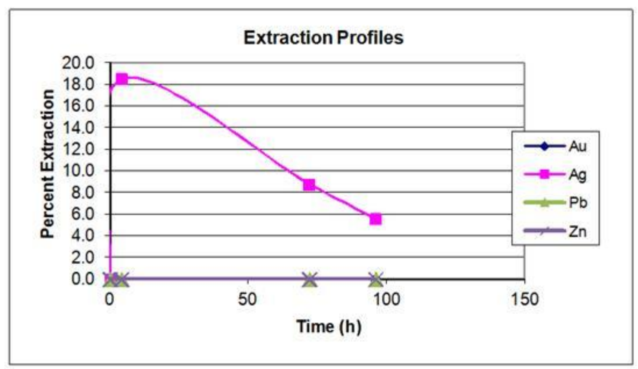
| Time (hrs) | Gr. Wt. (g) | Slurry (g) | pH | $CuSO_4$** (g) | $Ca(OH)_2$ (g) | $NaHS.H_2O$ (g) | S° (g) | Sol'n Vol. (mL) | Sample (mL) | Au (mg/L) | Ag (mg/L) | Pb (mg/L) | Zn (mg/L) | Au (mg) | Ag (mg) | Pb (mg) | Zn (mg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 343.0 | 249.1 | 10.5 | | 1.00 | 9.3 | 3.7 | | | | | | | | | | |
| 4 | 318.7 | 224.8 | 11.2 | | 1.60 | | | 112 | 12.5 | 0.0 | 7.8 | 0.0 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 |
| 72 | 393.0 | 299.1 | 12.4 | 0.1 | 0.50 | | | 189 | 24.5 | 0.0 | 1.7 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| 96 | 408.75 | 314.9 | 11.1 | | | | | 208 | | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Total | | | | 0.10 | 3.10 | 9.32 | 3.72 | | | | | | | | | | |

**Solids**

| Time (hrs) | Wt (g) | Au (g/t) | Ag (g/t) | Pb (g/t) | Zn (g/t) | Au (mg) | Ag (mg) | Pb (mg) | Zn (mg) |
|---|---|---|---|---|---|---|---|---|---|
| 96 | 106.97 | 1.49 | 42 | 176 | 552 | 0.2 | 4.5 | 18.8 | 59.0 |

**Leach Results**

| Time (hrs) | Au Dist. (%) | Ag Dist. (%) | Pb Dist. (%) | Zn Dist. (%) | $CuSO_4$ Cons. (kg/t) | $Ca(OH)_2$ Cons. (kg/t) | $NaHS.H_2O$ Cons. (kg/t) | S° Cons. (kg/t) |
|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 9.58 | 89.33 | 35.66 |
| 4 | 0.0 | 18.5 | 0.0 | 0.0 | 0.00 | 24.92 | 89.33 | 35.66 |
| 72 | 0.0 | 8.8 | 0.0 | 0.0 | 0.96 | 29.71 | 89.33 | 35.66 |
| 96 | 0.0 | 5.5 | 0.0 | 0.0 | 0.96 | 29.71 | 89.33 | 35.66 |
| Residue | 100.0 | 94.5 | 100.0 | 100.0 | | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | | | | |




* Values below detection limit shown as zero
** $CuSO_4.5H_2O$

**Appendix 3 – Assay Reports**

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

**Client:** **Crucible Resources Ltd.**
745 East 30th Ave
Vancouver BC V5V 2V8 CANADA

| | |
|---|---|
| Submitted By: | Doug Warkentin |
| Receiving Lab: | Canada-Vancouver |
| Received: | March 04, 2015 |
| Report Date: | March 24, 2015 |
| Page: | 1 of 2 |

# CERTIFICATE OF ANALYSIS VAN15000517.1

## CLIENT JOB INFORMATION

| | |
|---|---|
| Project: | Franklin/Neveda/ETI |
| Shipment ID: | |
| P.O. Number | |
| Number of Samples: | 20 |

## SAMPLE DISPOSAL

PICKUP-PLP Client to Pickup Pulps

Bureau Veritas does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

## SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

| Procedure Code | Number of Samples | Code Description | Test Wgt (g) | Report Status | Lab |
|---|---|---|---|---|---|
| PRP70-250 | 5 | Crush, split and pulverize 250 g rock to 200 mesh | | | VAN |
| PUL85 | 1 | Pulverize to 85% passing 200 mesh | | | VAN |
| SLBHP | 14 | Sort, label and box pulps | | | VAN |
| AQ200 | 18 | 1:1:1 Aqua Regia digestion ICP-MS analysis | 0.5 | Completed | VAN |
| AQ250_EXT | 2 | 1:1:1 Aqua Regia digestion Ultratrace ICP-MS analysis | 0.5 | Completed | VAN |
| GC921 | 2 | Cu in oxide form, 5% H2SO4 | 1 | Completed | VAN |
| DRPLP | 20 | Warehouse handling / disposition of pulps | | | VAN |
| AQ370 | 7 | 1:1:1 Aqua Regia digestion ICP-ES analysis | 0.4 | Completed | VAN |
| FA530 | 2 | Lead collection fire assay 30G fusion - Grav finish | 30 | Completed | VAN |

## ADDITIONAL COMMENTS

Invoice To: Crucible Resources Ltd.
745 East 30th Ave
Vancouver BC V5V 2V8
CANADA

CC:

BRITISH COLUMBIA CERTIFIED ASSAYER
Marcus Lau
MARCUS LAU
Geochemical Laboratory Manager

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

**Client:** **Crucible Resources Ltd.**
745 East 30th Ave
Vancouver BC V5V 2V8 CANADA

Project: Franklin/Neveda/ETI
Report Date: March 24, 2015



# CERTIFICATE OF ANALYSIS VAN15000517.1

| | Method | WGHT | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Wgt | Mo | Cu | Pb | Zn | Ag | Ni | Co | Mn | Fe | As | Au | Th | Sr | Cd | Sb | Bi | V | Ca | P |
| | Unit | kg | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | % | ppm | ppb | ppm | ppm | ppm | ppm | ppm | ppm | % | % |
| | MDL | 0.01 | 0.1 | 0.1 | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 1 | 0.01 | 0.5 | 0.5 | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 2 | 0.01 | 0.001 |
| CR141118-1 | Rock | 1.63 | 0.3 | 177.2 | 2.3 | 23 | <0.1 | 23.1 | 4.6 | 736 | 2.30 | <0.5 | 0.9 | 0.7 | 5 | <0.1 | <0.1 | 0.2 | 40 | 0.35 | 0.088 |
| CR141118-2 | Rock | 0.80 | 0.3 | 80.5 | 2.4 | 36 | <0.1 | 27.5 | 10.4 | 280 | 1.42 | 1.8 | 1.2 | <0.1 | 2 | <0.1 | <0.1 | <0.1 | 27 | 0.24 | 0.027 |
| CR141118-3 | Rock | 0.38 | 0.2 | 94.4 | 0.5 | 29 | <0.1 | 23.6 | 21.6 | 242 | 2.66 | <0.5 | <0.5 | <0.1 | 5 | <0.1 | <0.1 | <0.1 | 88 | 0.94 | 0.096 |
| CR141118-4 | Rock | 1.09 | 0.3 | 497.6 | 0.6 | 53 | <0.1 | 37.9 | 18.3 | 257 | 3.31 | 0.9 | 1.8 | <0.1 | 8 | <0.1 | <0.1 | <0.1 | 80 | 0.79 | 0.109 |
| G1510 3/4inch Rocks | Rock | 0.75 | 3.9 | 2552.9 | 6.0 | 47 | 0.5 | 4.8 | 18.6 | 473 | 5.13 | 9.7 | 112.6 | 0.7 | 88 | 0.1 | 0.2 | <0.1 | 163 | 1.37 | 0.120 |
| G1510 2nd sample 3/8 | Rock Chip | 1.12 | 3.1 | 3830.9 | 5.1 | 50 | 0.5 | 5.7 | 14.6 | 412 | 4.37 | 8.9 | 160.1 | 0.6 | 138 | 0.2 | 0.2 | <0.1 | 151 | 1.40 | 0.089 |
| CR141118-S1 | Rock Pulp | | 1.0 | 115.1 | 3.1 | 77 | <0.1 | 89.7 | 24.4 | 634 | 3.92 | 4.5 | 13.1 | 0.5 | 12 | 0.2 | 0.1 | <0.1 | 103 | 0.69 | 0.050 |
| CR141118-S2 | Rock Pulp | | 1.0 | 97.7 | 2.1 | 79 | <0.1 | 87.4 | 20.5 | 545 | 3.47 | 3.6 | 6.6 | 0.8 | 12 | 0.2 | <0.1 | <0.1 | 96 | 0.60 | 0.062 |
| CR141118-G1 | Rock Pulp | | 1.2 | 95.6 | 2.2 | 57 | <0.1 | 644.6 | 45.7 | 540 | 3.41 | 15.2 | 4.2 | 0.7 | 9 | 0.1 | 0.2 | <0.1 | 70 | 0.43 | 0.030 |
| CN 109-1 | Rock Pulp | | 54.6 | 2006.4 | >10000 | >10000 | >100 | 220.9 | 34.1 | 1594 | 10.24 | 216.9 | 7673.4 | 18.1 | 23 | 1067.1 | 541.9 | 33.4 | 17 | 0.39 | 0.087 |
| CN 109-2 | Rock Pulp | | 22.7 | 714.5 | 3220.7 | >10000 | 90.1 | 114.4 | 33.4 | 4270 | 11.49 | 60.8 | 50190.8 | 5.8 | 17 | >2000 | 36.0 | 1.7 | 9 | 0.34 | 0.041 |
| CN 109-3 | Rock Pulp | | 25.2 | 640.3 | 2192.5 | >10000 | 51.0 | 123.6 | 29.6 | 1355 | 10.88 | 52.9 | 13311.9 | 8.4 | 18 | 653.2 | 24.5 | 1.2 | 13 | 0.53 | 0.066 |
| CN 109-4 | Rock Pulp | | 39.0 | 72.7 | 719.6 | 1151 | 3.3 | 204.3 | 6.1 | 617 | 2.20 | 7.7 | 169.0 | 6.4 | 8 | 17.2 | 5.7 | 0.1 | 10 | 0.23 | 0.057 |
| CN 110-1 | Rock Pulp | | 48.1 | 1163.5 | >10000 | >10000 | >100 | 169.9 | 28.5 | 1256 | 9.98 | 134.7 | 3310.2 | 16.0 | 16 | 802.9 | 355.8 | 20.2 | 14 | 0.33 | 0.074 |
| CN 110-2 | Rock Pulp | | 108.8 | 1150.5 | 4500.9 | >10000 | 94.7 | 579.2 | 54.2 | 3889 | 16.37 | 77.9 | 36585.5 | 6.1 | 12 | >2000 | 38.8 | 2.1 | 9 | 0.35 | 0.041 |
| CN 110-3 | Rock Pulp | | 184.5 | 397.0 | 2439.9 | 8160 | 36.1 | 1042.7 | 38.8 | 1420 | 8.27 | 37.2 | 742.2 | 13.2 | 25 | 199.6 | 20.8 | 1.2 | 20 | 1.01 | 0.089 |
| CN 110-4 | Rock Pulp | | 38.9 | 46.9 | 665.9 | 952 | 2.5 | 213.4 | 5.7 | 619 | 1.95 | 7.4 | 50.8 | 6.8 | 9 | 14.1 | 5.2 | 0.1 | 10 | 0.26 | 0.052 |
| CR FRT-L1-S1 | Rock Pulp | | 2.5 | 376.3 | 181.4 | 452 | 46.9 | 5.9 | 3.8 | 1286 | 2.55 | 22.6 | 813.8 | 0.4 | 96 | 3.6 | 5.5 | 0.2 | 54 | 3.84 | 0.049 |
| ETI MFA 104-R1 | Rock Pulp | | | | | | | | | | | | | | | | | | | | |
| ETI MFA 104-Conc. | Rock Pulp | | | | | | | | | | | | | | | | | | | | |

BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.

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**Client:** **Crucible Resources Ltd.**
745 East 30th Ave
Vancouver BC V5V 2V8 CANADA

Project: Franklin/Neveda/ETI
Report Date: March 24, 2015



# CERTIFICATE OF ANALYSIS VAN15000517.1

| | Method | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ250 | AQ250 | AQ250 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | La | Cr | Mg | Ba | Ti | B | Al | Na | K | W | Hg | Sc | Tl | S | Ga | Se | Te | Mo | Cu | Pb |
| | Unit | ppm | ppm | % | ppm | % | ppm | % | % | % | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | ppm |
| | MDL | 1 | 1 | 0.01 | 1 | 0.001 | 20 | 0.01 | 0.001 | 0.01 | 0.1 | 0.01 | 0.1 | 0.1 | 0.05 | 1 | 0.5 | 0.2 | 0.01 | 0.01 | 0.01 |
| CR141118-1 | Rock | 7 | 16 | 0.35 | 516 | 0.064 | <20 | 0.63 | 0.013 | 0.21 | <0.1 | <0.01 | 2.4 | 0.2 | 0.06 | 3 | 0.7 | <0.2 | | | |
| CR141118-2 | Rock | <1 | 40 | 0.57 | 15 | 0.045 | <20 | 0.61 | 0.034 | 0.03 | <0.1 | <0.01 | 2.4 | <0.1 | 0.06 | 2 | <0.5 | <0.2 | | | |
| CR141118-3 | Rock | <1 | 14 | 0.77 | 83 | 0.109 | <20 | 1.01 | 0.105 | 0.10 | <0.1 | <0.01 | 7.0 | <0.1 | 0.37 | 4 | 1.0 | <0.2 | | | |
| CR141118-4 | Rock | <1 | 149 | 0.71 | 108 | 0.134 | <20 | 1.55 | 0.088 | 0.43 | <0.1 | <0.01 | 8.1 | 0.2 | 0.46 | 6 | 0.7 | <0.2 | | | |
| G1510 3/4inch Rocks | Rock | 8 | 5 | 0.92 | 156 | 0.117 | <20 | 1.37 | 0.067 | 0.17 | 0.3 | 0.08 | 4.5 | <0.1 | 0.12 | 8 | 1.8 | <0.2 | | | |
| G1510 2nd sample 3/8 | Rock Chip | 7 | 8 | 0.85 | 134 | 0.096 | <20 | 1.34 | 0.062 | 0.14 | 0.4 | 0.06 | 4.7 | <0.1 | 3.60 | 8 | 1.3 | <0.2 | | | |
| CR141118-S1 | Rock Pulp | 2 | 109 | 1.83 | 366 | 0.199 | <20 | 2.25 | 0.037 | 0.56 | 0.2 | <0.01 | 9.1 | 0.2 | <0.05 | 7 | <0.5 | <0.2 | | | |
| CR141118-S2 | Rock Pulp | 3 | 105 | 1.69 | 245 | 0.170 | <20 | 1.94 | 0.035 | 0.41 | 0.3 | <0.01 | 8.0 | 0.2 | <0.05 | 7 | <0.5 | <0.2 | | | |
| CR141118-G1 | Rock Pulp | 2 | 142 | 2.04 | 176 | 0.117 | <20 | 2.28 | 0.001 | 0.14 | 0.2 | 0.04 | 5.7 | 0.2 | <0.05 | 5 | 0.6 | <0.2 | | | |
| CN 109-1 | Rock Pulp | 16 | 336 | 0.40 | 33 | 0.050 | <20 | 0.90 | 0.030 | 0.17 | 3.3 | 0.57 | 1.5 | 0.7 | 9.52 | 4 | 19.1 | 14.4 | | | |
| CN 109-2 | Rock Pulp | 6 | 168 | 0.17 | 24 | 0.028 | <20 | 0.48 | 0.007 | 0.09 | 2.2 | 0.87 | 0.8 | 0.3 | 9.09 | 5 | 8.5 | 0.7 | | | |
| CN 109-3 | Rock Pulp | 9 | 206 | 0.29 | 27 | 0.042 | <20 | 0.73 | 0.009 | 0.14 | 2.9 | 0.18 | 1.3 | 0.3 | 6.39 | 4 | 2.7 | 0.6 | | | |
| CN 109-4 | Rock Pulp | 9 | 316 | 0.22 | 12 | 0.029 | <20 | 0.50 | 0.014 | 0.10 | 1.0 | 0.02 | 0.9 | <0.1 | 0.23 | 2 | 0.6 | <0.2 | | | |
| CN 110-1 | Rock Pulp | 15 | 280 | 0.33 | 25 | 0.043 | <20 | 0.76 | 0.019 | 0.15 | 2.7 | 0.24 | 1.3 | 0.3 | 7.86 | 4 | 13.8 | 8.2 | | | |
| CN 110-2 | Rock Pulp | 6 | 905 | 0.13 | 17 | 0.024 | <20 | 0.39 | 0.005 | 0.07 | 4.3 | 0.69 | 0.7 | 0.3 | 9.79 | 4 | 7.8 | 1.0 | | | |
| CN 110-3 | Rock Pulp | 15 | 1623 | 0.37 | 36 | 0.061 | <20 | 0.98 | 0.023 | 0.21 | 3.3 | 0.14 | 1.9 | 0.2 | 3.44 | 5 | 2.7 | 0.4 | | | |
| CN 110-4 | Rock Pulp | 11 | 326 | 0.23 | 12 | 0.035 | <20 | 0.53 | 0.011 | 0.10 | 0.9 | <0.01 | 1.0 | <0.1 | 0.17 | 2 | <0.5 | <0.2 | | | |
| CR FRT-L1-S1 | Rock Pulp | 4 | 13 | 1.06 | 25 | 0.017 | <20 | 1.17 | 0.031 | 0.06 | 0.5 | 0.16 | 3.6 | <0.1 | 0.08 | 5 | 1.6 | <0.2 | | | |
| ETI MFA 104-R1 | Rock Pulp | | | | | | | | | | | | | | | | | | 37.07 | 633.56 | 2316.36 |
| ETI MFA 104-Conc. | Rock Pulp | | | | | | | | | | | | | | | | | | 26.81 | 2802.19 | 3351.81 |

BUREAU VERITAS MINERAL LABORATORIES Canada

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**Client:** **Crucible Resources Ltd.**
745 East 30th Ave
Vancouver BC V5V 2V8 CANADA

Submitted By: Doug Warkentin
Receiving Lab: Canada-Vancouver
Received: March 25, 2015
Report Date: April 03, 2015


# CERTIFICATE OF ANALYSIS VAN15000664.1

## CLIENT JOB INFORMATION

| | |
|---|---|
| Project: | Zacta/Franklin/Nevada |
| Shipment ID: | |
| P.O. Number | |
| Number of Samples: | 16 |

## SAMPLE DISPOSAL

| | |
|---|---|
| PICKUP-PLP | Client to Pickup Pulps |
| PICKUP-RJT | Client to Pickup Rejects |

Bureau Veritas does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

## SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

| Procedure Code | Number of Samples | Code Description | Test Wgt (g) | Report Status | Lab |
|---|---|---|---|---|---|
| BAT01 | 1 | Batch charge of <20 samples | | | VAN |
| PRP70-250 | 4 | Crush, split and pulverize 250 g rock to 200 mesh | | | VAN |
| SLBHP | 12 | Sort, label and box pulps | | | VAN |
| AQ200 | 16 | 1:1:1 Aqua Regia digestion ICP-MS analysis | 0.5 | Completed | VAN |
| DRPLP | 16 | Warehouse handling / disposition of pulps | | | VAN |
| DRRJT | 4 | Warehouse handling / Disposition of reject | | | VAN |
| AQ370 | 6 | 1:1:1 Aqua Regia digestion ICP-ES analysis | 0.4 | Completed | VAN |
| FA530 | 1 | Lead collection fire assay 30G fusion - Grav finish | 30 | Completed | VAN |

## ADDITIONAL COMMENTS

Invoice To: Crucible Resources Ltd.
745 East 30th Ave
Vancouver BC V5V 2V8
CANADA

CC:

BRITISH COLUMBIA CERTIFIED ASSAYER
Marcus Lau
MARCUS LAU
Geochemical Laboratory Manager

BUREAU VERITAS MINERAL LABORATORIES Canada

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PHONE (604) 253-3158

**Client:** **Crucible Resources Ltd.**
745 East 30th Ave
Vancouver BC V5V 2V8 CANADA

Project: Zacta/Franklin/Nevada
Report Date: April 03, 2015



# CERTIFICATE OF ANALYSIS VAN15000664.1

| | Method | WGHT | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Wgt | Mo | Cu | Pb | Zn | Ag | Ni | Co | Mn | Fe | As | Au | Th | Sr | Cd | Sb | Bi | V | Ca | P |
| | Unit | kg | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | % | ppm | ppb | ppm | ppm | ppm | ppm | ppm | ppm | % | % |
| | MDL | 0.01 | 0.1 | 0.1 | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 1 | 0.01 | 0.5 | 0.5 | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 2 | 0.01 | 0.001 |
| CR150311-1 | Rock | 0.68 | 0.8 | 102.4 | 1.7 | 31 | <0.1 | 221.0 | 18.2 | 477 | 2.70 | 2.2 | <0.5 | 0.3 | 4 | <0.1 | 0.1 | <0.1 | 40 | 0.32 | 0.064 |
| CR150311-2 | Rock | 0.70 | 0.8 | 127.9 | 1.4 | 24 | <0.1 | 578.8 | 61.1 | 465 | 5.23 | 23.5 | 2.0 | 0.4 | 27 | <0.1 | 0.5 | 0.2 | 38 | 1.67 | 0.325 |
| CR150311-3 | Rock | 1.32 | <0.1 | 23.0 | 0.5 | 14 | <0.1 | 1025.2 | 73.5 | 702 | 3.07 | 330.8 | <0.5 | <0.1 | 2 | <0.1 | 0.2 | <0.1 | 15 | 0.05 | 0.002 |
| CR150311-4 | Rock | 0.69 | 0.2 | 6.9 | 1.4 | 17 | <0.1 | 8.9 | 2.2 | 88 | 1.00 | 6.8 | 0.7 | 0.2 | 1 | <0.1 | 0.1 | <0.1 | 6 | 0.02 | 0.006 |
| CR150311-S1 | Rock Pulp | 0.03 | 0.3 | 21.1 | 1.3 | 19 | <0.1 | 207.8 | 15.3 | 216 | 1.82 | 39.1 | 4.1 | <0.1 | 6 | <0.1 | 0.3 | <0.1 | 32 | 0.21 | 0.035 |
| CR150311-S2 | Rock Pulp | 0.14 | 0.2 | 40.5 | 1.0 | 39 | <0.1 | 47.6 | 11.7 | 195 | 1.63 | 10.0 | <0.5 | 0.7 | 5 | 0.4 | 0.1 | <0.1 | 42 | 0.32 | 0.051 |
| CN 111-1 | Rock Pulp | 0.04 | 2.1 | 928.7 | >10000 | >10000 | >100 | 56.3 | 24.0 | 2762 | 8.80 | 36.4 | 3749.8 | 8.3 | 20 | 1052.9 | 168.0 | 12.0 | 26 | 0.40 | 0.045 |
| CN 111-2 | Rock Pulp | 0.02 | 1.3 | 1193.2 | >10000 | >10000 | 97.1 | 24.6 | 16.4 | 8242 | 7.65 | 15.1 | 25523.0 | 5.4 | 17 | >2000 | 84.0 | 6.0 | 15 | 0.41 | 0.031 |
| CN 111-3 | Rock Pulp | 0.02 | 1.1 | 600.6 | >10000 | >10000 | 53.3 | 21.8 | 6.1 | 2321 | 4.16 | 14.8 | 4957.6 | 8.4 | 23 | 646.5 | 54.2 | 4.3 | 26 | 0.68 | 0.052 |
| CN 111-4 | Rock Pulp | 0.18 | 0.2 | 96.3 | 1674.2 | 2334 | 8.1 | 4.8 | 1.2 | 1089 | 1.40 | 3.2 | 82.6 | 5.0 | 12 | 44.1 | 11.3 | 0.7 | 18 | 0.24 | 0.031 |
| CN 112-1 | Rock Pulp | 0.01 | 30.4 | 466.0 | >10000 | >10000 | >100 | 23.0 | 29.0 | 768 | 11.69 | 125.2 | 7066.8 | 10.7 | 11 | 455.8 | 203.9 | 1.4 | 12 | 0.12 | 0.075 |
| CN 112-2 | Rock Pulp | <0.01 | 23.0 | 2432.4 | >10000 | >10000 | >100 | 41.1 | 31.8 | 938 | 11.51 | 104.1 | 34553.7 | 12.8 | 19 | 700.2 | 239.3 | 2.4 | 14 | 0.52 | 0.086 |
| CN 112-3 | Rock Pulp | 0.02 | 4.1 | 379.8 | 7022.6 | 2156 | >100 | 6.5 | 3.9 | 820 | 4.10 | 15.2 | 652.9 | 11.7 | 18 | 50.5 | 43.7 | 0.5 | 13 | 1.00 | 0.101 |
| CN 112-4 | Rock Pulp | 0.18 | 1.8 | 96.5 | 1684.4 | 721 | 15.4 | 1.8 | 1.3 | 567 | 2.45 | 6.0 | 51.1 | 7.6 | 7 | 8.1 | 18.0 | 0.2 | 10 | 0.10 | 0.066 |
| I0603 FRT-L2-S1 | Rock Pulp | 0.11 | 2.0 | 761.4 | 167.5 | 482 | 52.6 | 6.2 | 3.7 | 1322 | 2.64 | 17.4 | 909.5 | 0.4 | 102 | 3.4 | 7.3 | 0.2 | 58 | 3.81 | 0.047 |
| I0603 FRT-L3-S1 | Rock Pulp | 0.11 | 1.9 | 159.9 | 176.2 | 552 | 42.0 | 5.5 | 2.9 | 1280 | 2.48 | 13.1 | 1491.1 | 0.4 | 100 | 4.5 | 3.9 | 0.1 | 55 | 3.74 | 0.045 |

Bureau Veritas Commodities Canada Ltd.
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Client: **Crucible Resources Ltd.**
745 East 30th Ave
Vancouver BC V5V 2V8 CANADA

Project: Zacta/Franklin/Nevada
Report Date: April 03, 2015



# CERTIFICATE OF ANALYSIS VAN15000664.1

| | Method | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ374 | AQ374 | AQ374 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | La | Cr | Mg | Ba | Ti | B | Al | Na | K | W | Hg | Sc | Tl | S | Ga | Se | Te | Pb | Zn | Ag |
| | Unit | ppm | ppm | % | ppm | % | ppm | % | % | % | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | % | % | gm/t |
| | MDL | 1 | 1 | 0.01 | 1 | 0.001 | 20 | 0.01 | 0.001 | 0.01 | 0.1 | 0.01 | 0.1 | 0.1 | 0.05 | 1 | 0.5 | 0.2 | 0.01 | 0.01 | 2 |
| CR150311-1 | Rock | 2 | 232 | 1.64 | 241 | 0.128 | <20 | 0.64 | 0.051 | 0.26 | 0.1 | <0.01 | 5.0 | <0.1 | 0.55 | 3 | <0.5 | <0.2 | | | |
| CR150311-2 | Rock | 4 | 379 | 3.46 | 221 | 0.156 | <20 | 1.17 | 0.066 | 0.14 | 0.3 | <0.01 | 5.8 | <0.1 | 2.18 | 3 | 1.0 | <0.2 | | | |
| CR150311-3 | Rock | <1 | 719 | 6.70 | 14 | 0.004 | <20 | 0.41 | <0.001 | <0.01 | <0.1 | <0.01 | 5.1 | <0.1 | <0.05 | <1 | <0.5 | <0.2 | | | |
| CR150311-4 | Rock | <1 | 11 | 0.23 | 13 | 0.003 | <20 | 0.29 | 0.006 | 0.03 | <0.1 | <0.01 | 0.6 | <0.1 | <0.05 | <1 | <0.5 | <0.2 | | | |
| CR150311-S1 | Rock Pulp | <1 | 176 | 0.90 | 44 | 0.044 | <20 | 0.59 | 0.010 | 0.04 | <0.1 | <0.01 | 1.7 | <0.1 | <0.05 | 2 | <0.5 | <0.2 | | | |
| CR150311-S2 | Rock Pulp | 2 | 63 | 0.60 | 67 | 0.053 | <20 | 0.65 | 0.007 | 0.09 | <0.1 | <0.01 | 2.2 | 0.1 | <0.05 | 2 | <0.5 | <0.2 | | | |
| CN 111-1 | Rock Pulp | 11 | 25 | 0.62 | 36 | 0.092 | <20 | 0.92 | 0.019 | 0.15 | 7.1 | 0.34 | 2.8 | 0.4 | 7.93 | 5 | 12.2 | 2.0 | 3.59 | 4.54 | 171 |
| CN 111-2 | Rock Pulp | 7 | 15 | 0.33 | 24 | 0.066 | <20 | 0.55 | 0.010 | 0.09 | 4.7 | 0.35 | 1.7 | 0.2 | >10 | 7 | 15.4 | 1.2 | 1.71 | 22.97 | 92 |
| CN 111-3 | Rock Pulp | 13 | 28 | 0.64 | 39 | 0.111 | <20 | 0.96 | 0.017 | 0.17 | 7.5 | 0.09 | 2.9 | 0.1 | 3.29 | 5 | 3.6 | 0.9 | 1.15 | 2.84 | 51 |
| CN 111-4 | Rock Pulp | 9 | 14 | 0.46 | 18 | 0.064 | <20 | 0.62 | 0.008 | 0.12 | 5.8 | <0.01 | 1.8 | <0.1 | 0.41 | 3 | <0.5 | <0.2 | | | |
| CN 112-1 | Rock Pulp | 13 | 20 | 0.21 | 45 | 0.019 | <20 | 0.88 | 0.020 | 0.35 | 0.9 | 0.13 | 1.4 | 0.3 | >10 | 4 | 6.6 | 1.2 | 4.03 | 1.44 | >300 |
| CN 112-2 | Rock Pulp | 15 | 57 | 0.22 | 56 | 0.023 | <20 | 1.01 | 0.018 | 0.37 | 1.9 | 0.51 | 1.4 | 0.8 | 9.84 | 5 | 12.7 | 1.9 | 6.16 | 1.85 | >300 |
| CN 112-3 | Rock Pulp | 18 | 14 | 0.34 | 55 | 0.019 | <20 | 1.08 | 0.032 | 0.43 | 0.3 | 0.06 | 1.6 | 0.2 | 0.71 | 4 | 1.8 | <0.2 | 0.71 | 0.19 | 99 |
| CN 112-4 | Rock Pulp | 13 | 6 | 0.21 | 29 | 0.014 | <20 | 0.67 | 0.028 | 0.27 | 0.3 | <0.01 | 1.0 | 0.1 | 0.14 | 3 | <0.5 | <0.2 | | | |
| I0603 FRT-L2-S1 | Rock Pulp | 3 | 12 | 1.12 | 24 | 0.016 | <20 | 1.28 | 0.153 | 0.07 | 0.7 | 0.14 | 3.6 | <0.1 | 0.09 | 5 | 1.4 | <0.2 | | | |
| I0603 FRT-L3-S1 | Rock Pulp | 3 | 11 | 1.05 | 22 | 0.016 | <20 | 1.21 | 0.068 | 0.06 | 0.6 | 0.12 | 3.3 | <0.1 | 0.35 | 5 | 0.8 | <0.2 | | | |

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**Analyst: JXU**

| Sample ID / ELEMENTS | I0603 KW FRT-L3-1 mg/L | I0603 KW FRT-L3-2 mg/L | I0603 KW FRT-L3-3 mg/L | I0603 FRT-L4-1 mg/L | I0603 FRT-L4-2 mg/L | I0603 FRT-L4-3 mg/L | I0603 KW-FRT-L2-2 mg/L |
|---|---|---|---|---|---|---|---|
| Ag Silver | 7.57 | 5.27 | <0.5 | 7.83 | 1.69 | 0.60 | <0.5 |
| Al Aluminium | <2. | <2. | 3.63 | <2. | <2. | <2. | 48.0 |
| As Arsenic | 2.93 | 3.10 | <2. | <2. | <2. | <2. | 4.02 |
| Au Gold | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| B Boron | <5. | <5. | <5. | <5. | <5. | <5. | <5. |
| Ba Barium | 0.18 | 0.21 | 0.12 | 0.72 | 0.50 | 0.38 | <0.1 |
| Be Beryllium | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Bi Bismuth | <5. | <5. | <5. | <5. | <5. | <5. | <5. |
| Ca Calcium | 10.8 | 83.1 | 8.94 | 1243 | 1630 | 1368 | 2.06 |
| Cd Cadmium | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.39 |
| Co Cobalt | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Cr Chromium | 1.36 | 0.93 | 1.27 | 0.77 | 0.75 | 0.58 | <0.5 |
| Cu Copper | 20.5 | 1.09 | 1.44 | 8.00 | <1. | 10.6 | 888 |
| Fe Iron | 4.14 | 2.42 | 32.9 | 4.02 | 2.10 | 1.84 | 2.68 |
| K Potassium | 29.1 | 18.4 | <5. | 28.6 | 26.4 | 24.0 | 32.1 |
| Li Lithium | <1. | <1. | <1. | <1. | <1. | <1. | <1. |
| Mg Magnesium | <1. | <1. | <1. | <1. | <1. | <1. | <1. |
| Mn Manganese | 2.26 | 1.41 | 0.86 | 0.72 | 0.57 | 0.48 | 2.05 |
| Mo Molybdenum | 1.20 | <1. | <1. | 1.116 | <1. | <1. | <1. |
| Na Sodium | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Ni Nickel | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| P Phosphorus | <3. | <3. | <3. | 4.34 | 8.93 | 5.95 | <3. |
| Pb Lead | <2. | <2. | <2. | <2. | <2. | <2. | 2.25 |
| S Sulfur | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Sb Antimony | 2.67 | 2.27 | <2. | <2. | 2.35 | <2. | <2. |
| Se Selenium | <2. | <2. | <2. | <2. | <2. | <2. | <2. |
| Si Silicon | 48.0 | 49.6 | 30.4 | 19.8 | 13.1 | 16.7 | 72.8 |
| Sn Tin | <2. | <2. | <2. | <2. | <2. | <2. | <2. |
| Sr Strontium | 0.69 | 0.81 | <0.1 | 4.09 | 2.78 | 2.49 | <0.1 |
| Ti Titanium | <1. | <1. | <1. | <1. | <1. | <1. | <1. |
| Tl Thallium | <2. | <2. | <2. | <2. | <2. | <2. | <2. |
| U Uranium | <5. | <5. | <5. | <5. | <5. | <5. | <5. |
| V Vanadium | <1. | <1. | <1. | <1. | <1. | <1. | <1. |
| Zn Zinc | 10.5 | 0.74 | 2.01 | <0.5 | <0.5 | <0.5 | 41.6 |

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**Analyst: JXU**

| Sample ID / ELEMENTS | I0603 CR-FRT-L2-1 mg/L | I0603 CR-FRT-L1-1 mg/L | I0603 CR-FRT-L1-2 mg/L |
|---|---|---|---|
| Ag Silver | <0.5 | 2.06 | 1.85 |
| Al Aluminium | 51.2 | <2. | <2. |
| As Arsenic | 4.20 | <2. | <2. |
| Au Gold | < 0.5 | 1.52 | 0.64 |
| B Boron | <5. | <5. | <5. |
| Ba Barium | <0.1 | 0.26 | 0.27 |
| Be Beryllium | <0.1 | <0.1 | <0.1 |
| Bi Bismuth | <5. | <5. | <5. |
| Ca Calcium | 2.38 | 56.1 | 105 |
| Cd Cadmium | 0.56 | 0.64 | 0.65 |
| Co Cobalt | <0.5 | <0.5 | <0.5 |
| Cr Chromium | <0.5 | <0.5 | <0.5 |
| Cu Copper | 276 | 1234 | 1208 |
| Fe Iron | 3.13 | 8.07 | 2.50 |
| K Potassium | 31.2 | 35.7 | 30.5 |
| Li Lithium | <1. | <1. | <1. |
| Mg Magnesium | <1. | 1.238 | <1. |
| Mn Manganese | 0.48 | 0.18 | <0.1 |
| Mo Molybdenum | <1. | <1. | <1. |
| Na Sodium | N/A | N/A | N/A |
| Ni Nickel | <0.5 | 1.89 | <0.5 |
| P Phosphorus | 3.38 | <3. | <3. |
| Pb Lead | <2. | 2.48 | 2.54 |
| S Sulfur | N/A | N/A | N/A |
| Sb Antimony | <2. | <2. | <2. |
| Se Selenium | <2. | <2. | <2. |
| Si Silicon | 73.6 | <5. | <5. |
| Sn Tin | <2. | <2. | <2. |
| Sr Strontium | <0.1 | 1.22 | 1.16 |
| Ti Titanium | <1. | <1. | <1. |
| Tl Thallium | <2. | <2. | <2. |
| U Uranium | <5. | <5. | <5. |
| V Vanadium | <1. | <1. | <1. |
| Zn Zinc | 68.2 | 87.1 | 85.6 |