

NOVA MINERALS LIMITED ASX: NVA

Nova Minerals Limited is an Australian domiciled mineral resources exploration and development company with North American Focus.

#### **Ordinary Shares on issue:**

NVA: 711,891,788

#### **Listed Options:**

NVAO: 169,490,272

#### **Unlisted Options:**

NVAAA: 42,000,000 NVAAC: 7,500,000

#### **Board of Directors:**

**Mr Avi Kimelman** *Managing Director / CEO* 

Mr Louie Simens
Non-Executive Director

Mr Dennis Fry
Non-Executive Director

Mr Olaf Frederickson
Non-Executive Director

**Company Secretary:** 

Mr Adrien Wing

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7 February 2018

## BASE AND PRECIOUS METALS EXPERT JOINS THE NOVA TEAM

## **Highlights**

- Nova appoints consultant Mr Thomas K. Bundtzen (P. Geo., BS, MS), an Alaskan geologist specialist
- Thompson Brothers Lithium Drilling Update

The directors of Nova Minerals Limited (**Nova** or **Company**) (ASX: NVA) are pleased to announce the company has appointed Mr Thomas K. Bundtzen P.Geo, BS, MS, an Alaskan based expert geologist, as a consultant to further strengthen the technical team to accelerate on ground exploration activities on the Alaskan project portfolio.

Mr. Thomas (Tom) K. Bundtzen serves as a Geological Consultant through his private consultancy Pacific Rim Geological Consulting, Inc. Mr. Bundtzen has extensive experience involving geology of platinum, gold and base metal deposits. He has consulted/worked for 20 private and public clients and published approximately 160 papers and chapters on Alaskan, Canadian, and Russian Far East Geology in Journals, State and federal publications, and books. He is a Certified Professional Geologist (CPG) with the American Institute of Professional Geologists and holds Alaska Business License Geological and Technical Services. Mr. Bundtzen received his M.S. in Economic Geology from Department of Geology and Geophysics at the University of Alaska, Fairbanks in 1981 and his B.S. in Geology from the School of Mineral Engineering at University of Alaska Fairbanks in 1973. Mr. Bundtzen serves as the president of the Alaska Mining Hall of Fame Foundation.

**Nova CEO, Avi Kimelman commented:** "We are pleased and excited to have Mr. Bundtzen and Pacific Rim Geological Consulting, Inc. to join our team with his vast expertise and knowledge of the Nova Alaskan project portfolio to greatly enhancing the value of the District scale Estelle Gold Copper project, the Chip Loy Nickel Cobalt project and Bowser Creek Silver Zinc projects."

"Mr. Bundtzen has studied, mapped and explored the Farewell Terrane for in excess of 30 years for both Business and Government departments and we believe that by combining the technical team's knowledge and historic discoveries in the region with Mr. Bundtzen's experience and expertise we can rapidly assess and begin to develop the overall potential of the project portfolio."

The Chip-Loy Ni-Co-Cu project contains disseminated to massive sulfides, mainly pyrrhotite and chalcopyrite, that was rock chip sampled by Mr Bundtzen whereby assays returned up to 3.30% nickel, 0.25% cobalt, 2.10% copper, 12.1 g/t silver, and 43.2 percent iron (Smith and Albanese, 1985) (Bundtzen, Roberts, and others, 1982) (Historical, Non-JORC Compliant – refer to source references below). It is envisaged that Mr Bundtzen will be able to assist Nova in preparation of an exploration target for the Chip-Loy project similarly to the potential identified in these source references:

- (a) US Geological Survey (USGS) Alaska Resource Data File (ARDF) MG032 https://mrdata.usgs.gov/ardf/show-ardf.php?ardf\_num=MG032
- (b) Reconnaissance strategic and critical mineral investigations in the McGrath A-3 and B-2 Quadrangles, southwest Alaska http://dggs.alaska.gov/webpubs/usbm/fr/text/fr mcgrath critmin 1987 southworth.pdf
- (c) The Chip-Loy Fe-Ni-Cu deposit, McGrath A-3 Quadrangle, central Alaska http://dggs.alaska.gov/webpubs/usbm/un/text/bundtzen\_and\_others\_1985.pdf

#### **ALASKAN PROJECT PORTFOLIO**

The Alaskan Projects range from more advanced exploration projects with ore grade drill intersections to brownfield tenements. The most advanced projects are the Estelle gold project, a district scale high tonnage, gold, copper, silver project, the Chip-Loy nickel, cobalt, copper project, the Bowser creek silver, zinc, lead project which the US government has spent in excess of \$7m on this project historically and Windy Fork REE project.

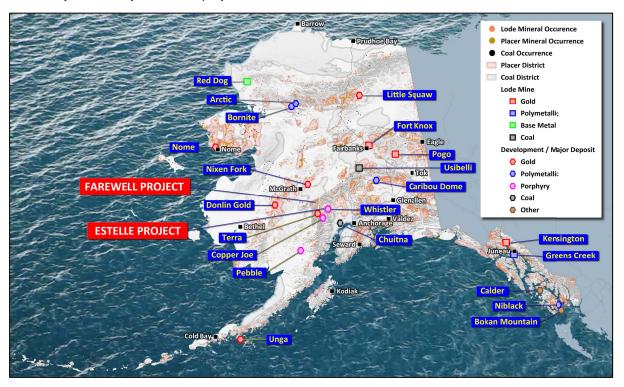


Figure 1: Location map of AKM's projects

# Alaskan Project portfolio:

Project	Area (km²)	AKM Interest	Commodity Target
Estelle	112.02	100%	District-scale Au, Ag, Cu
Bowser Creek	12.95	100%	Polymetallic Ag, Zn, Pb, Cu
Chip Loy / Roberts	27.19	100%	Ni, Cu, Co, Cu, Ag±Au massive sulphides
Windy Fork	16.83	100%	REE (Ce, La, Y)
Ozzna Creek	23.31	100%	Ag, Au, Cu, Pb, Zn, Mo

Table 1: AKM projects, land area and commodity targets

## ESTELLE GOLD PROJECT (District-scale Au, Ag, Cu)

## Highlights (as at the date of this report)

- District-scale Gold-copper porphyry project Chasing an elephant in elephant country.
- Project located on Giant plutonic gold systems.
- High-grade gold occurrences over the entire project area; a robust gold system.
- Historic exploration only scratched the surface.
- Proposed gas pipeline passes by property and near the Beluga gas power station
- Adjacent to Gold mining Inc. 6.3Moz Au, 28.7Moz Ag, 480kt Cu Whistler project Source: http://www.goldmining.com/\_resources/reports/Whistler-2016-Technical-Report.pdf and in the same assemblage of rocks that hosts Northern Dynasty's giant Pebble copper-gold-

molybdenum-silver deposit (70Moz Au, 3.4b lb Mo, 344Moz Ag) Source: https://www.northerndynastyminerals.com/pebble-project/reserves-resources/

- Multiple walk up drill targets to be targeted to define a resource under JORC code.
- Exploration target between 1.1 Moz and 2.2 Moz gold on the Oxide prospect which represents a small zone of the total project area

The Estelle Gold Project is comprised of one-hundred and seventy-three (173) unpatented mining claims located on State of Alaska public lands. There are multiple prospects within the project area; Oxide (Oxide Ridge, Oxide Valley, Oxide North and Oxide South); Stoney (Stoney, Tomahawk, Kid and Trundle); Mount Estelle (Mount Estelle, Shoeshine and Train); and Emerald (RPM and Revelation). The Estelle Gold project is located approximately 110 miles northwest of Anchorage and approximately 112 miles southeast of McGrath; within the Seward Meridian and partially within the Talkeetna A-6, Tyonek D8, and Lime Hills D-1 USGS 63,360 Quadrangles.

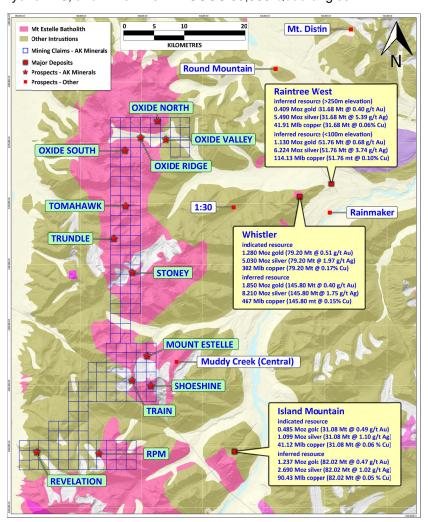


Figure 2: Estelle project location and prospects

The rocks in the area of the Oxide prospects are Jurassic and Cretaceous marine sedimentary rocks that are intruded by the 65-66 Ma granodiorite of Mount Estelle (Reed and Nelson, 1980). The granodiorite at this prospect has a leucocratic equigranular phase and a porphyritic phase with potassium feldspar phenocrysts up to 10 mm in size (Cominco American Incorporated, unpublished report). As described by Cominco American, chalcopyrite, pyrrhotite, arsenopyrite, molybdenite and pyrite occur as joint coatings, in veins, and as disseminations adjacent to northwest-striking mineralized joint sets.

The Stoney, Trundle, Kid and Tomahawk prospects are located on the northern side of Mt Stoney. These prospects are located on the Yentna trend of Late Cretaceous/early Tertiary composite plutons described by Reed and Nelson (1980). All other prospects are located within and adjacent to the Mount Estelle pluton (Reed and Elliott, 1970). In the central part of the pluton, a biotite-hornblende-

quartz monzonite intrudes Mesozoic marine sedimentary rocks of the Kahiltna terrane. It is described as a high-grade, polymetallic vein occurrence located near a strong, circular magnetic high pointing to the possibility of nearby porphyry mineralization. Native gold occurs with chalcopyrite, pyrite, arsenopyrite, and pyrrhotite associated with sericite, carbonate and chlorite alteration in sheeted joints, stockwork veinlets, and circular structures that range from 1 inch to more than 15 feet in diameter (Millholland, 1995; Crowe and others, 1991; Crowe and Millholland, 1990). These structures are in the felsic and intermediate phases of the pluton. Gold associated with pyrrhotite, chalcopyrite, pentlandite and molybdenite also occurs in ultramafic rocks on the south side of the pluton.

## Estelle Gold project (Oxide Target) Technical discussion

An Exploration Target was defined on a very small area of the Estelle gold project Oxide prospect of:

**Lower end:** 57.72 Mt using an average grade of 0.6 g/t Au provides an exploration target of 1.11 Moz Au

**Higher end:** 121.21 Mt using an average grade of 0.6 g/t Au provides an exploration target of 2.33 Moz Au

The grade of mineralisation appears to increase to the southeast. Hole SE12-004, the southeastern-most hole drilled, intersected gold mineralization throughout the majority of the hole with a highlight intercept of 41.45 meters grading 1.14 grams gold per tonne. An induced polarization survey conducted in 2012 revealed a chargeability high corresponding with the drilled mineralized trend. The highest chargeability occurs southeast of drill hole SE12-004 providing a vector to possible higher-grade mineralization to the southeast and is a priority drill target.

Assay results for copper, silver, molybdenum and other minerals were never made public by previous explorers.

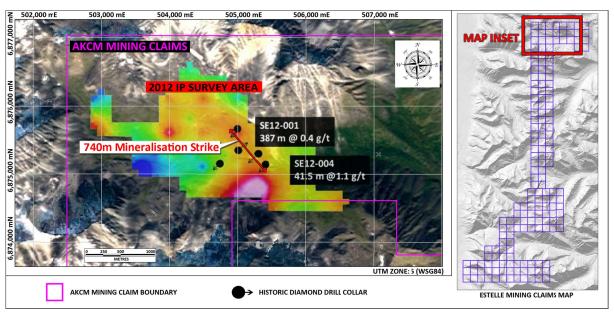


Figure 3: Estelle Project - Oxide prospect exploration target area

There has been insufficient exploration drilling to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource. The Exploration Target was estimated in order to provide the market with an assessment of the potential scale of the Estelle gold project using the historic Exploration Results.

#### **FAREWELL TERRANE**

The Farewell Terrane is comprised of four projects; Bowser Creek; Chip-Loy/Roberts; Windy Fork; and Ozzna Creek, all centered within a radius of approximately 10 miles. The projects are located between 60 and 80 miles southeast of McGrath and 148 to 160 miles northeast of Anchorage; within the Seward Meridian, McGrath A-2, A-3 and B-2 USGS 63,360 Quadrangles and wholly within the McGrath Mining District.

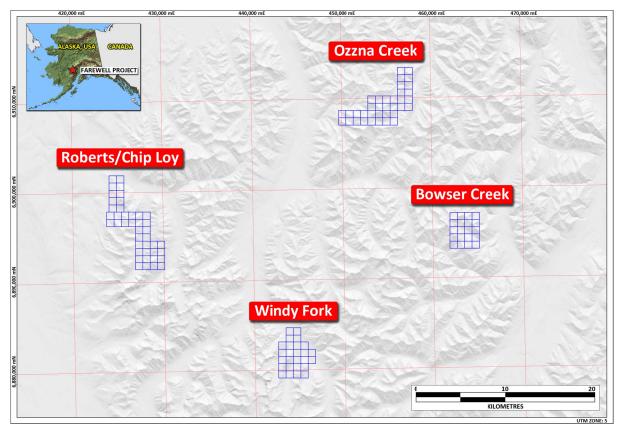


Figure 4: Farewell project locations

# Chip-Loy/Roberts Project (Nickel, Copper, Cobalt, Gold, Silver, PGE's)

# **Highlights**

- Chip-channel samples from the Chip-Loy deposit contain a number of historical disseminated and massive Ni, Co, Cu sulfide sampling (Smith and Albanese, 1985; Bundtzen, Roberts, and others, 1982)
- Drilling planned to understand the extent and expand on the known Massive sulphide Ni, Co, Cu mineralisation

The Chip-Loy/Roberts prospect is comprised of forty-two (42) unpatented mining claims located on State of Alaska public lands wholly within the McGrath A-3 Quadrangle. The prospects (Chip-Loy and Roberts) are described separately, although geophysical data suggests the Roberts prospect is part of a belt of similar deposits that includes the Chip-Loy prospect.

## Chip-Loy (Nickel, Cobalt, Copper)

The Chip-Loy massive sulphide Ni-Cu-Co prospect was first discovered and staked by prospectors Ed Chipp and Robert Loy in the early 1960s. Since then numerous geologists from industry and government have visited and sampled it. It is located adjacent to Straight Creek, one of the headwater tributaries of the Middle Fork of the Kuskokwim River. It consists of an irregular, steeply dipping layer of massive to disseminated, nickelian pyrrhotite accompanied by other sulfides in an elongate, composite, diabase intrusion. The diabase, which ranges from gabbro to diorite, has been described as a pipe in plan view or as a dike. The intrusion trends in a northeast direction and cuts mid-Silurian

Terra Cotta Mountains Sandstone, a formation of the Dillinger subterrane, a continental margin assemblage of Lower Paleozoic age and has been assign as early Tertiary age (Bundtzen 1999a).

#### Chip Loy/Roberts Technical discussion

The Chip-Loy deposit contains disseminated to massive sulfides, mainly pyrrhotite and chalcopyrite, with minor cubanite and sphalerite, and trace galena, bravoite, violarite, tetradymite (Bi2Te2S), and undetermined Co-Ni-Fe arsenides (Herreid, 1968; Gilbert and Solie, 1983; Bundtzen and others, 1985). This style of deposit has many features in common with various aspects of Canadian deposits such as Thompson, Raglan, Voisey's Bay and most notably the Australian Fraser Range based Nova-Bollinger discovery by Sirius Resources in 2012.

http://www.igo.com.au/irm/content/nova-project.aspx?RID=503

https://mrdata.usgs.gov/ardf/show-ardf.php?ardf\_num=MG032

Figure 5 shows the magnetic anomaly imagery overlain with other geological and geophysical targets including Resistivity/IP and EM Conductors. The Chip-Loy prospect lies at the contact of a magnetic high and magnetic low zone adjacent to a southeast-northwest trending fault extending into the Roberts prospect. Chip-Loy is also located adjacent to a large highly conductive zone (R25) extending in excess of 4 km in a southwest-northeast trend within the project tenure. A similar high conductive zone (R24) is located north of the Roberts PGE prospect zone located within a magnetic high anomaly.

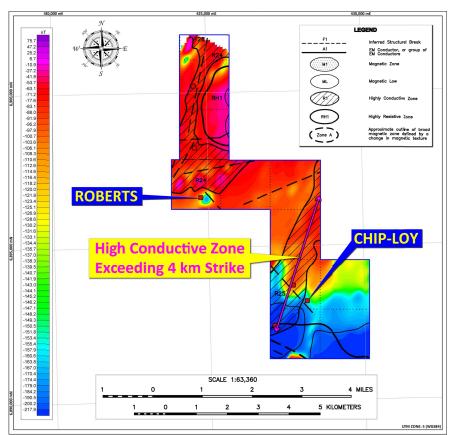


Figure 5: magnetic anomaly imagery overlain with other geological targets including Resistivity/IP and EM Conductors

## Roberts (Nickel, Copper, Cobalt, Platinum Group Elements)

The Roberts prospect is in a differentiated, mafic-ultramafic sill that cuts silty limestone and shale of the Late Cambrian to Early Ordovician, Lyman Hills Formation, the oldest facies of the Dillinger subterrane (Bundtzen, Harris, and Gilbert, 1997). The sill is undated, but believed to be correlative with Late Triassic feeders in the Tatina River Volcanics, a subdivision of the Middle Devonian to Lower Jurassic Mystic subterrane (Bundtzen, Harris, and Gilbert, 1997; T.K. Bundtzen and G.M. Laird, written communication, 1998). The mineralization at the Roberts prospect is mainly

disseminated and network-style sulfides with a notable content of platinum group elements (PGE) in the lower and middle part of the sill.

## Windy Fork Project (REE's)

## **Highlights**

- Cerium enriched REE placer gravels concentrations occur throughout large areas of the project area.
- Systematic surface sampling of the placer deposit was completed by Barker (1991) during 1988.
- Target drilling of REE placer gravels to define a resource under JORC code.
- Bulk test sampling and trial mining planned of REE placer gravels.

The Windy Fork prospect is comprised of twenty-six (26) unpatented mining claims located on State of Alaska public lands wholly within the McGrath A-3 Quadrangle. The Windy Fork Placer occurrence is located at the confluence of the Windy Fork of the Kuskokwim River and two unnamed, north flowing tributaries draining the Windy Fork pluton (Gilbert and others, 1988). Systematic surface sampling of the placer deposit was completed by Barker (1991) during a cooperative strategic mineral assessment of the McGrath quadrangle with the Alaska Division of Geological and Geophysical Surveys.

The Windy Fork prospect is a significant accumulation of REE minerals, ilmenite, zircon, and other heavy minerals liberated from the peralkaline Windy Fork composite pluton and concentrated in a high energy glaciofluvial placer deposit (Solie, 1983; Gilbert and others, 1988; Barker, 1991; Bundtzen, Harris, and Gilbert, 1997). Although the Windy Fork pluton contains riebeckite granite, biotite granite, and pyroxene syenite phases; its average chemical composition is that of peralkaline granite (Solie, 1983). The Windy Fork pluton is radioactive and scintillometer readings taken along traverses across the intrusion range from 650-to-800 cps, about 3 times the average background for granitic rocks. High energy glaciofluvial gravels with significant heavy mineral concentrations have accumulated in an elliptical, one square kilometer area near the confluence of Windy Fork and two second order tributary streams that dissect the Windy Fork pluton (Gilbert and others, 1988). Stream bed and fan deposits contain abundant chevkinite, eudialyte, ilmenite, monazite, tscheffkinite, and zircon and minor to trace allanite, cassiterite, and thorite (Barker, 1991). Natural streaks of black sand rich in magnetite and ilmenite are very common in bedload environments. Monazite and zircon are easily identified in the field.

#### **Bowser Creek Project (Silver-Zinc-Lead)**

## **Highlights**

- During a heavy metals investigation of the southern Alaska Range in 1967 a U.S. Geological Survey Team discovered occurrences of lead, zinc and silver of potential economic significance.
- The reported cost of this government project was \$7 million, and the Bowser Creek exposures were considered to be the 'find' of the summer.
- Multiple walk up drill targets to be targeted to define a resource under JORC code.

The Bowser Creek prospect is comprised of twenty (20) unpatented mining claims located on State of Alaska public lands wholly within the McGrath A-2 Quadrangle. There are three targeted prospects – Bowser Creek Headwaters; Bowser Creek Main and Bowser Creek Northeast, all located along Bowser Creek up to the headwaters.

During a heavy metals investigation of the southern Alaska Range in 1967 a U.S. Geological Survey Team discovered occurrences of lead, zinc and silver of potential economic significance. The Bowser Creek prospects were subsequently discovered during regional geological mapping and mineral investigations conducted in the southern Alaska Range by the U.S. Geological Survey and published in Reed and Elliott (1968, C 559 and 596) and Reed and Lanphere (1972). The reported cost of this government project was \$7 million, and the Bowser Creek exposures were considered to be the 'find' of the summer.

The Bowser Creek prospects consists of disseminated to massive, sulfide mineralization in discrete, northwest trending, steeply dipping, quartz-carbonate veins and vein breccias cutting quartz porphyry

of the Bowser Creek composite pluton. The quartz porphyry phase, which has been radiometrically, dated 60.4 Ma; it intrudes the Early to mid-Paleozoic Dillinger subterrane (Bundtzen and others, 1988; Bundtzen, Harris, and Gilbert, 1997). A prospect map has been published by Bundtzen and others (1988). Sulfide minerals include massive sphalerite and pyrrhotite, with lesser amounts of galena, chalcopyrite, and arsenopyrite. Pyrrhotite and arsenopyrite clearly crosscut previously deposited galena, sphalerite, and pyrite.

#### Ozzna Creek Project (Gold, Silver, Zinc, Copper, Lead)

#### **Highlights**

- The Ozzna creek prospect consists of base metal sulfide veins and replacement deposits within an extensive quartz-sericite-pyrite halo rimming a 450 meter wide, rugged, quartz monzonite breccia pipe, which forms the core of a distinctive, precipitous, 7,205-foot –high (2,197 m) peak.
- · Historic data to be reviewed
- Drill testing to unlock a new base metals province.

The Ozzna Creek Project is comprised of thirty-six (36) unpatented mining claims located on State of Alaska public lands wholly within the McGrath B-2 Quadrangle. There are several prospects within the project area whereby they form part of a widespread polymetallic mineral belt, the Farewell Mineral belt and were one of several in a block of claims, known collectively as the BMP project, prospected by International Tower Hill Mines, Ltd., (2008).

The Ozzna Creek prospect is located on a west-flowing tributary of the Windy Fork of the Kuskokwim River. It consists of base metal sulfide veins and replacement deposits in an extensive quartz-sericite-pyrite halo rimming a 450-meter-wide, quartz monzonite breccia pipe. The pipe forms the core of a distinctive, precipitous, 7,205-foot -high peak. A biotite separate from the quartz monzonite pipe gave a K-Ar age of 58 Ma. (Solie and others, 1991). A pronounced magnetic high rims the edge of the breccia pipe. (The magnetic anomaly that rims the quartz monzonite breccia pipe is similar to geophysical features found in porphyry copper systems throughout the North American Cordillera.)

Estimates in this report are historical estimates and are not reported in accordance with the JORC Code. A competent person has not done sufficient work to classify the historical estimates as mineral resources and/or reserves in accordance with the JORC Code. It is uncertain that following evaluation and/or further exploration work that the historical estimates will be able to be reported as mineral resources or ore reserves in accordance with the JORC Code. For further information please refer to ASX announcements dated 20 November 2017, 23 November 2017 and 18 December 2017.

## **Thompson Brothers Lithium update**

The board is also pleased to update that drilling is rapidly progressing at the Thompson Brothers lithium project in line with the Company's objective; with this phase of drilling Nova Minerals will target extensions to the known pegmatite, identification and preliminary definition of nearby sub-parallel pegmatites outcropping to the northwest, and infill drilling for resource definition. The program is in line with our fast track development strategy to unlocking the value in the project area and an update will be provided on the work program in due course.

#### About Nova Minerals Limited (ASX: NVA):

## Thompson Bros. Lithium Project

Nova Minerals Limited own the rights to earn up to 80% ownership interest of the Thompson Bros. Lithium Project from Ashburton Ventures Inc. by financing their commitments relating to their Option Agreement with Strider Resources Ltd.

The Thompson Bros. Lithium Project, located in Manitoba, Canada contains a historical **(NON-JORC COMPLIANT)** resource estimate of 4,305,000 tonnes of 1.3% Li2O, open at depth and along strike.

These estimates are historical estimates and are not reported in accordance with the JORC Code. A competent person has not done sufficient work to classify the historical estimates as mineral resources and/or reserves in accordance with the JORC Code. It is uncertain that following evaluation and/or further exploration work that the historical estimates will be able to be reported as mineral resources or ore reserves in accordance with the JORC Code.

## Alaskan Project Portfolio

Nova Minerals Limited own the rights to earn up to 85% ownership interest of the Alaskan Project Portfolio from AK Minerals Pty Ltd. by financing their commitments relating to their JV Agreement.

The Alaskan project portfolio range from more advanced exploration projects with ore grade drill intersections to brownfield tenements. The most advanced projects are the Estelle gold project, a district scale with potential high tonnage, gold, copper, silver project, the Chip-Loy nickel, cobalt, copper project, the Bowser creek silver, zinc, lead project which the US government has spent in excess of \$7m on this project historically and the Windy Fork REE project.