



# Otago Pioneer Quartz Gold Exploration Project Update

ASX Release | 12 December 2019

ASX Code | NAE

New Age Exploration Limited (“NAE” or “the Company”) is pleased to provide the following update on results from the recently completed 2019 Phase 1 gold exploration program at its Otago Pioneer Quartz (“OPQ”) Project within NAE Exploration Permit EP 60502, located in Otago, New Zealand.

## HIGHLIGHTS

- High-grade anomalous gold results ranging between 0.1 g/t and 2.5 g/t gold received in 5 shallow man-portable holes (2m to 6m deep) drilled over the OPQ gold target in September 2019
- These new results extend the total number of high-grade anomalous gold results obtained by NAE over the OPQ gold target to 10 results ranging between 0.1 g/t and 2.5 g/t gold from shallow man-portable holes and hand auger drilled holes
- These new results further confirm a ~6 km potential strike length for the OPQ gold target defined by anomalous gold soil results highlighting the potential for one or more narrow zones of high-grade gold mineralization
- A Phase 2 exploration program comprising of aircore drilling (~20m deep holes) and trenching over the OPQ gold target is planned to be undertaken in 2020 Q1 to follow up on the encouraging Phase 1 results
- A follow up Phase 3 program, comprising of deeper RC and/or diamond drilling (>50m deep holes), is also planned later in 2020 subject to the results of Phases 1 and 2

*NAE Executive Director, Joshua Wellisch, commented: “The high-grade gold results from our 2019 Phase 1 gold exploration program were all obtained from man-portable drillholes between 2 and 6m deep which were able to penetrate wind-blown surface cover prevalent over much of the OPQ gold target. Given the potential strike length of up to 6 km defined by NAE, we believe that the OPQ lode is an attractive gold exploration target considering the tenor of gold mineralization in the historic Otago Pioneer Quartz (OPQ) mine over the central part of the OPQ target which averaged around 13 g/t gold mined over a 2m width, to a depth up to 65m and over a strike length of ~1.2km. We are excited about following up these results with a Phase 2 program including deeper aircore holes to ~20m depth to better define the gold mineralization next year. Work on advancing gold exploration within the recently granted adjoining NAE Lammerlaw Prospecting Permit will be advanced in conjunction with the OPQ Phase 2 program planned next year.”*

## OTAGO PIONEER QUARTZ GOLD EXPLORATION PROJECT UPDATE

### NAE Exploration Permit

In January 2019, NAE was granted a 71.6km<sup>2</sup> Exploration Permit (EP60502) covering the Otago Pioneer Quartz (“OPQ”) Gold Target located in the Mahinerangi area of Otago, New Zealand (see Figure 1). The recently granted NAE Lammerlaw Prospecting Permit (PP 60544) adjoins the OPQ Exploration Permit (EP 60502) to the west.

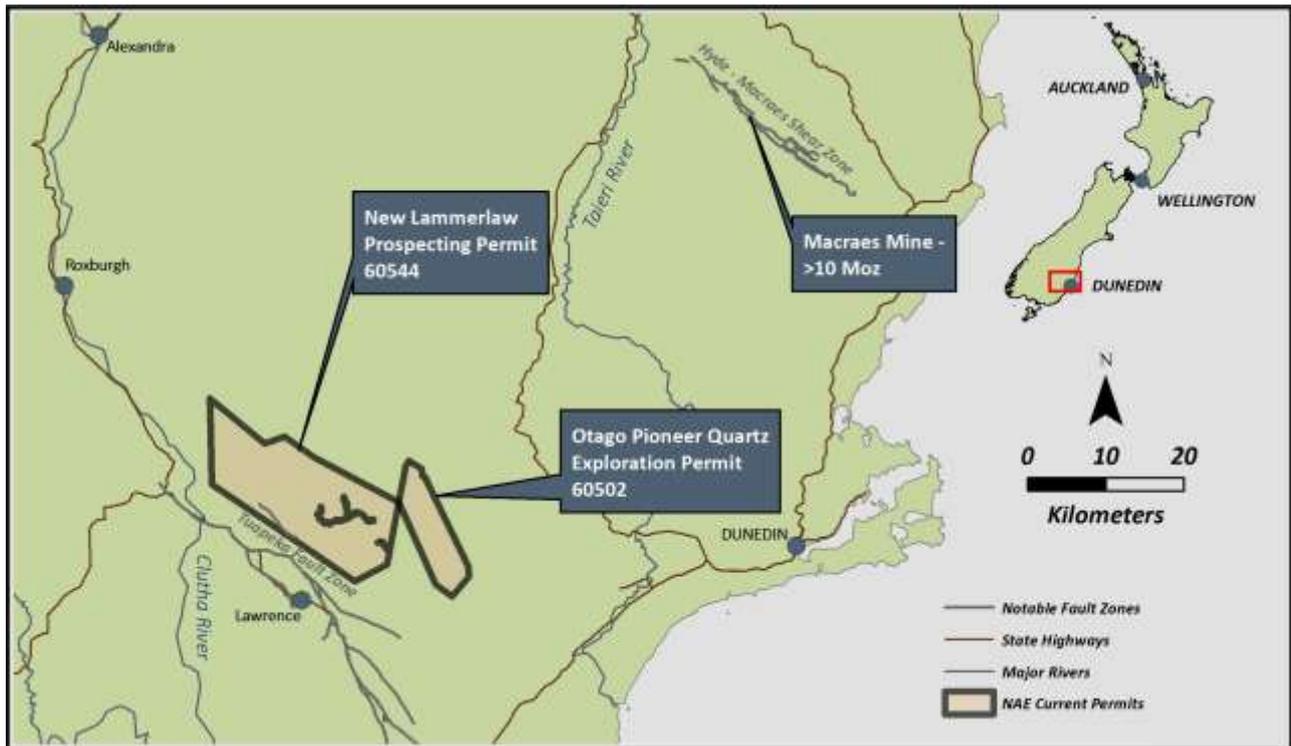


Figure 1- NAE Exploration Permit EP60502 (Mahinerangi), Historic OPQ Gold Mine and Exploration Target Location

### Otago Pioneer Quartz Historic Gold Mine

Historic records indicate that the Otago Pioneer Quartz (OPQ) reef was mined over 100 years ago yielding an average grade of around 13 g/t gold mined over a 2m width, to a depth up to 65m and over a strike length of ~1.2km.

### Soil Au and As Anomaly over Historic OPQ Mine Defined by Macraes Mining

Exploration around the OPQ historic mine area by Macraes Mining Company between 1991 and 1997 further demonstrated As and Au soil anomalies over a distance of approximately 1.5km strike length above the area of the OPQ reef historically mined (see Figure 2).

### NAE 2018 Soil Sampling Programs

NAE undertook a soil sampling program using a man-portable drill and hand auger in February 2018 and a follow up program in September 2018 under a previously held Prospecting Permit over the area. Key results from the NAE 2018 exploration programs over the OPQ gold target included:

- 2 samples located approximately 700m southeast and along strike of the OPQ historic mine and previously defined soil anomaly recorded gold values of 1.4 g/t and 0.6 g/t

- 0.66 g/t gold located ~2,700m southeast and along strike of the OPQ historic mine and previously defined soil anomaly and ~2,000m southeast and along strike of the 1.4 g/t and 0.6 g/t gold soil results obtained by NAE in February 2018
- 0.55 g/t and 0.25 g/t gold on a line located north of Lake Mahinerangi ~3,000m northwest and along strike of the OPQ historic mine and previously defined soil anomaly

### NAE 2019 Phase 1 Exploration Program

NAE completed its Phase 1 Exploration Program over the OPQ gold exploration target in September and October 2019 including:

- 223 soil samples taken by hand auger
- 22 man-portable drillholes from 2m to 6m depth
- 93 rockchip samples taken from outcrops that were geologically mapped

All samples were analysed in the field using a portable XRF instrument and then sent to the laboratory for gold analysis which was completed at the end of November 2019.

Table 1 – Significant Assay Results from 2019 Phase 1 OPQ Exploration Program

Sample Name	Sampling Method	Co-ordinates (meters, NZ Transverse Mercator Projection 2000)	Depth to C Horizon or weathered schist (m)	Total Depth (m)	Horizon	Comments	As (from pXRF) (ppm)	Au Assay (g/t Au)
LN8 ST8	Percussion drill	1358824.1mE, 4917027.6mN	4.9	5	Weathered Schist	Loess to 4.9m, Weathered Schist 4.9m to hole bottom at 5m (sample LN8 ST8 at 5m)	6	2.51
LN8 ST3A	Percussion drill	1358912.9mE, 4917085mN	4.5	5	Quartz Gravel	Quartz gravel sample from ST3. Loess to 3.9m, Quartz gravels to 4.5m (sample LN8 ST3A 3.9-4.5m) Weathered Schist 4.5m to hole bottom at 5m	0	0.81
LN9 ST6	Percussion drill	1359797.2mE, 4914798.7mN	2.3	3	Weathered Schist	Loess to 2.3m, Weathered Schist 2.3m to hole bottom at 3m (sample LN9 ST6 at 3m)	20	0.74
LN9 ST8	Percussion drill	1359805.1mE, 4914804.9mN	1.7	2	Weathered Schist	Loess to 1.7m, Weathered Schist 1.7m to hole bottom at 2m (sample LN9 ST8 at 2m)	17	0.13
LN8 ST7A	Percussion drill	1358832mE, 4917033.7mN	5.4	6	Quartz Gravel	Quartz gravel sample from ST7. Loess to 4.8m, Quartz gravels to 5.4m (sample LN8 ST7A 4.8-5.4m) Weathered Schist 5.4m to hole bottom at 6m	0	0.10

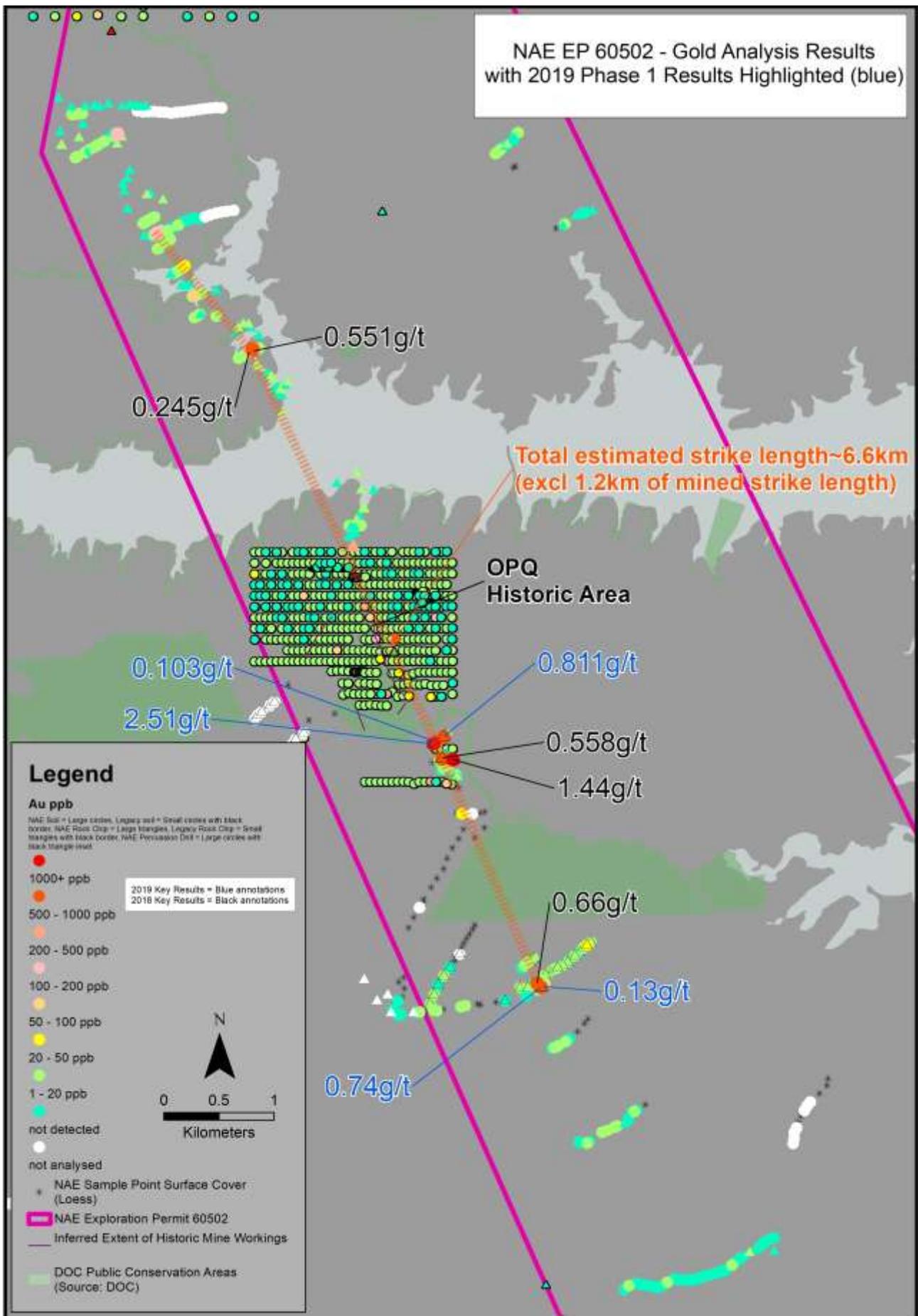


Figure 2 – OPQ Gold Exploration Project Results with Significant Results from 2019 Phase Program Highlighted

Results from the 2019 Phase 1 Exploration Program over the OPQ gold exploration target are shown in Table 1 and Figure 2 and include:

- **5 high-grade anomalous gold results ranging between 0.1 g/t and 2.5 g/t gold in man-portable drillholes**
- A further 3 soil and man-portable drill results showed anomalous gold above background levels (>20ppb gold)
- 162 samples had Au detected at background level (less than 20ppb) and 170 samples returned results less than detection limits

**These recent 2019 Phase 1 results extend the total number of high-grade anomalous gold results obtained by NAE over the OPQ gold target to 10 results ranging between 0.1 g/t and 2.5 g/t gold from shallow man-portable holes and hand auger drilled holes. A further 5 high-grade anomalous gold results between 0.1 g/t and 0.31 g/t gold were also previously obtained by Macraes Mining Company over the OPQ gold target above the historic OPQ Gold Mine area, increasing the number of high-grade anomalous gold results >0.1 g/t gold over the OPQ gold target to a total of 15. These new results further confirm a ~6 km potential strike length for the OPQ gold target defined by anomalous gold soil results highlighting the potential for one or more narrow zones of high-grade gold mineralization.**

Within the total 7.8km interpreted strike length of the OPQ target (inclusive of the 1.2km OPQ historic mine area), there are several occurrences of soil sampling lines where anomalous gold values have not been recorded. It has been assumed that in these occurrences, soil sampling may not have been deep enough to have penetrated the wind blown cover (i.e shallower hand auger samples) and/or spacing of sample points may have been too coarse to have detected the relatively narrow mineralisation.

### **Next Steps**

A Phase 2 exploration program comprising of aircore drilling (~20m deep holes) and trenching over the OPQ gold target is planned to be undertaken in 2020 Q1 to follow up on the encouraging Phase 1 results.

A follow up Phase 3 program, comprising of deeper RC and/or diamond drilling (>50m deep holes), is also planned later in 2020 subject to the results of Phases 1 and 2.

# COMPETENT PERSON'S STATEMENT

The information in this report that relates to Exploration Results is based on information reviewed by Kyle Howie, who is an exploration geologist and is a Member of the Australian Institute of Geoscientists. Kyle Howie has over 25 years experience in precious and base metal exploration and resource calculation including gold exploration and resource definition in the Otago region. Kyle Howie has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Kyle Howie consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## FORWARD LOOKING STATEMENTS

This report contains "forward-looking information" that is based on the Company's expectations, estimates and forecasts as of the date on which the statements were made. This forward-looking information includes, among other things, statements with respect to the Company's business strategy, plans, objectives, performance, outlook, growth, cash flow, earnings per share and shareholder value, projections, targets and expectations, mineral reserves and resources, results of exploration and related expenses, property acquisitions, mine development, mine operations, drilling activity, sampling and other data, grade and recovery levels, future production, capital costs, expenditures for environmental matters, life of mine, completion dates, commodity prices and demand, and currency exchange rates. Generally, this forward-looking information can be identified by the use of forward-looking terminology such as "outlook", "anticipate", "project", "target", "likely", "believe", "estimate", "expect", "intend", "may", "would", "could", "should", "scheduled", "will", "plan", "forecast" and similar expressions. The forward looking information is not factual but rather represents only expectations, estimates and/or forecasts about the future and therefore need to be read bearing in mind the risks and uncertainties concerning future events generally.



New Age Exploration Limited

ACN 004 749 508

Level 17, 500 Collins Street  
Melbourne, VIC 3000 Australia  
Phone: +61 3 9614 0600  
Email: [info@nae.net.au](mailto:info@nae.net.au)

# JORC CODE, 2012 EDITION- TABLE 1

## Section 1: Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
<p><b>Sampling techniques</b></p>	<ul style="list-style-type: none"> <li>• <i>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</i></li> <li>• <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li>• <i>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</i></li> </ul>	<p><b>Soil Sampling</b> – A total of 223 soil samples were collected in during September 2019 in EP60502. These were analysed using a portable XRF instrument (pXRF). A further 13 sampling points were unable to penetrate overlying Loess windblown cover and were therefore not used. A further 3 sample points were unable to penetrate fill material (either forestry fill or remnant man made sediment) and further 2 were situated on hard schist were no sample was taken) Soil samples were taken using a hand-held auger which could penetrate up to 3 metres depth. Where bedrock was shallow (&lt;0.2m), soil samples were retrieved using trenching shovel and hand trowel to avoid auger refusal. Samples were 150-400g, bagged in zip lock, clear ~50 micron thick polyethylene bags. No samples were composited. All samples were submitted for fire assay gold.</p> <p><b>Rock Chip Sampling</b> – A total of 119 rock chip samples were collected. Samples were 150-400g, taken using rock hammer or trenching shovel. No samples were composited. All samples were submitted for fire assay gold. These were also analysed using a portable XRF instrument. 93 of these samples were collected from 91 outcrops (73 of which were on mapping traverses and 18 of which intersected soil lines). A further 7 outcrop locations were not sampled, only structural measurements were collected at these locations.</p> <p>On soil lines with areas of thick loess cover a man-portable drill was used which was capable of sampling depths of up to 8 meters, successfully penetrating loess cover. Samples were retrieved using a window sampling system licensed in New Zealand by Van Walt (NZ) Ltd <a href="https://www.vanwalt.com/equipment/window-sampling-system">https://www.vanwalt.com/equipment/window-sampling-system</a>.</p> <p>The percussion drill could penetrate up to 1-2 meters into weathered schist. In some areas a thin (0.3-0.6m) layer of clean quartz gravels was intersected on the roof of the weathered schist. These quartz gravels were intersected in Line (LN) 8, locations Site (ST)1 to ST3, and ST6 to ST7. These gravels are probably a result of incision and alluvial recycling on the regional Waipounamu Erosion Surface.</p> <p>The true distinction between C horizon and R horizon (bedrock) is difficult to delineate in these areas due to the depth of the weathering on the regional erosion surface. The samples shown in the auger window had a high clay and oxide content with remnant foliation. For the avoidance of doubt, all samples taken by the percussion drill from this programme will be classified as rock chip samples. A coding reconciliation of previous percussion drill samples from work done for NAE</p>

Criteria	JORC Code explanation	Commentary
		<p>prospecting permit (PP) 60254 has been completed so that all NAE percussion drill samples from either PP60254 or EP60502 are now classified as rock chips.</p> <p>A total of 26 rock chip samples were collected from 22 percussion drill holes, these includes 22 weathered schist samples and 4 quartz gravel samples (LN8 ST2A, ST3A, ST6A and ST7A). A total of 85 metres was drilled with the percussion drill. A spring snow storm arrived on the afternoon of the 25th September, cutting short the planned percussion drilling from a planned 4 days down to 2 days - the 24th and 25th September.</p>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</li> </ul>	Not applicable
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	Not Applicable
<b>Logging</b>	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	Not Applicable
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<p><b>pXRF samples –</b></p> <p>The samples for pXRF analysis were approximately 150-400g of soil or rock chips. Samples were hand screened to remove any contaminant organic matter (e.g. roots). Samples were bagged in zip lock, clear ~50 micron thick polyethylene bags and whole samples analysed in the bags at field (in situ) moisture. In general, the in-situ moisture content of the samples was very low due to hot, dry spring weather conditions (i.e. samples were dry to touch). Rock chip samples were collected to provide at least one large, intact face for placement of the pXRF window to ensure the best analysis spacing with minimal chance of sharp fragments piercing the mylar analysis window. Rock chip samples were removed from the polyethylene bags prior to analysis.</p> <p><b>Soil and rock chip fire assay samples-</b> All samples submitted for fire assay gold were dried and crushed to &lt;6mm then pulverised to &gt;75µm.</p> <p>The nature and quality of the sample preparation technique is considered appropriate. The sample sizes</p>

Criteria	JORC Code explanation	Commentary
		are considered appropriate to the grain size of the material.
<p><b>Quality of assay data and laboratory tests</b></p>	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><i>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li><i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i></li> </ul>	<p><b>Soil and Rock Chip pXRF analysis</b> – All Soil and Rock Chip samples were analyzed by a Innov-X A 3500 portable XRF instrument supplied by CRL Energy Ltd with reading times of 30 seconds per sample using Soil Analysis Mode. The excitation source for this analyser is a 10–40 keV, 5–50 µA, W anode X-ray tube and the detector is a thermo-electrically cooled Si PIN diode with a resolution of &lt;280 eV. Portable XRF analysis was carried out for the following suite of metals for all samples; As, Cr, Cu, Ag, Cd, Co, Fe, Hg, Mn, Mo, Ni, Pb, Rb, Sb, Se, Sn, Sr, Ti, Ba, Bi, U, V, W, Zn, Zr, Th. Gold was not analysed using the pXRF.</p> <p>The Innov-X A3500 portable XRF instrumented was calibrated daily using Alloy Certified Reference Materials produced by Analytical Reference Materials International (ARMI), and the calibration verified using an blank SiO<sub>2</sub> reference sample and Soil Certified Reference Materials produced by National Institute of Standards and Technology (NIST) – approximately every 20 samples.</p> <p><b>Fire assay gold analysis</b> – A total of 342 samples were submitted for assay Gold (223 soil samples and 119 rock chip samples). All samples for fire assay gold were analysed by SGS Laboratories, 43 Victoria Street, Waihi, NZ. Analyses were conducted to ppm level AAS (Gold analysis finish after Fire Assay 30g) or ppb level (ICP-MS Gold analysis finish after Fire Assay 30g). A total of 35 duplicates (34 at ppb level, 1 at ppm level) were conducted. A total of 12 triplicates (11 at ppb level, 1 at ppm level) were conducted.</p> <p>Two gold standard compositions sourced from Rocklabs of 0.597ppm were submitted for Fire Assay Gold to verify laboratory accuracy and reproducibility. The analysed values for these standards were 0.591ppm and 0.582ppm.</p>
<p><b>Verification of sampling and assaying</b></p>	<ul style="list-style-type: none"> <li><i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	<p>Portable XRF results and relative GPS location points were downloaded onto a field laptop daily and cross referenced with written notes. During download the GPS locations were plotted for a qualitative check against georeferenced aerial photos raster files. The results and the corresponding location points were compiled into a single Excel™ spreadsheet. Precision for each element is recorded by the pXRF instrument and was uploaded into the results table. All fire assay gold results were entered into this spreadsheet and then imported into GIS software for plotting. Plotted results were cross-referenced against field notes.</p>

Criteria	JORC Code explanation	Commentary
		Mapping sheet data was entered into corresponding Excel™ tables nightly with outcrop photos linked to outcrop name.
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>	<p>All data has been compiled on map grid system NZGD 2000 - New Zealand Transverse Mercator.</p> <p>Locations of all soil, rock chip and mapping points were recorded using a handheld Garmin e10 GPS using the New Zealand Transverse Mercator projection based on the New Zealand Geodetic Datum 2000. In general these points have an accuracy of +/-5m. Locations from this GPS were qualitatively cross-referenced in the field with GPS locations as located by a Motorola E5 smartphone which were digitally plotted at the time of sampling on Google Earth, Land Information New Zealand (LINZ) Rural Aerial Photo and LINZ Topo50 Topographic Map series imagery. Close spaced sampling points (less than 20m – including all percussion drill sampling) were surveyed using tape and compass with reference to known features on georeferenced aerial imagery – in general these close spaced sample points have an accuracy of &lt;2m</p>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• Data spacing for reporting of Exploration Results.</li> <li>• Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>• Whether sample compositing has been applied.</li> </ul>	<p>Soil samples along planned soil lines were mostly collected at either 5 or 10m intervals along each line in the Central and Northern targets (the exception being LN6 which was collected at 20m intervals). Soil line sampling points in the Eastern and Southern targets were sampled at 20-50m spacings where available. Rock chip samples were taken regularly at outcrops (at unfixed distances) along the lakeshore and Northern Target in transects across the OPQ northern strike extension trend between approximately 20 and 100m apart. Average rock chip sample spacing from outcrop is approximately 50m. Rock chip was sampled via percussion drilling at location of 5-10m intervals</p>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<p>The east Otago Schist metamorphic basement contains a predominant geological and structural trend direction, northwest – southeast, related to pervasive polyphase metamorphic deformation. Soil sampling lines targeting along strike extension of the OPQ lode system are oriented approximately perpendicular to the noted OPQ orientation of 160°/50°NE. Mapping traverses were also oriented approximately perpendicular to this trend but deviated slightly due to available outcrop.</p>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<p>All samples were analysed in the field at the point of sampling or accommodation unit with pXRF with a small selection of samples later subjected to duplicate analysis at CRL Energy Ltd, Christchurch, NZ. All samples were stored under supervision of field geologists in the field including in locked storage overnight. All samples were sent from CRL Christchurch to SGS Waihi using tracked freight. All remaining pulps from Phase 1 fire assay analysis have been returned from SGS Waihi and are</p>

Criteria	JORC Code explanation	Commentary
		currently stored in a locked and alarmed storeroom at CRL Energy Ltd, Christchurch, NZ
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<p>The Competent Person is unaware of any reviews or audits which may have been completed other than that undertaken by the Competent Person himself</p> <p>CRL sampling and mapping procedures in the field were reviewed by Mr Kyle Howie.</p>

## Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li><i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i></li> <li><i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i></li> </ul>	<p>In January 2019 NAE was granted an Exploration Permit covering the OPQ gold exploration target (71.55 km<sup>2</sup>) known as EP60502.</p> <p>Landowner notification prior to access for low impact exploration activities is a requirement and has been provided prior to accessing properties for fieldwork undertaken. Activities greater than minimum impact activities, such as drilling require formal access arrangements for both private and public landholdings.</p> <p>Parts of the OPQ gold exploration target are covered by the OPQ and Cotton Creek Reserves which are public conservation areas. Permit holders require access consent (less strict than regional council resource consents and access arrangements) from the Department of Conservation (DOC) to conduct exploration activities on conservation land.</p> <p>Government royalties on gold mined in New Zealand are the higher of:</p> <p>(a) an ad valorem royalty of 2% of the net sales revenue of the minerals obtained under the permit; and</p> <p>(b) an accounting profits royalty of 10% of the accounting profits, or provisional accounting profits, as the case may be, of the minerals obtained under the permit.</p>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li><i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<p>There has been some gold exploration undertaken over the Mahinerangi exploration permit as described below.</p> <p><b><u>Mahinerangi</u></b></p> <p>Alluvial gold prospecting was conducted in the Waipori area by Alluvial Tin Ltd and British Developments Ltd in the 1930's in Lammerlaw Creek and Waipori on the western boundary of the current application area.</p> <p>In the early 1970's a joint venture between Lime and Marble Ltd and AHI Minerals conducted prospecting inside a permit ~300 sqkm over the for tungsten and antimony in the Waipori area (inside the Exploration Permit) and Lammerlaw Ranges (outside the western boundary of the Exploration Permit) using panned concentrates, stream sediment sampling, channel sampling and soil sample lines.</p> <p>Homestake New Zealand Exploration Ltd held an exploration permit in the Waipori area of 351sqkm which covered a similar area to the licences owned by Lime and Marble / AHI Minerals. BHP Gold Mines Ltd bought Homestake and it's exploration permit in the late 1980's. After the exploration permit expired BHP was</p>

Criteria	JORC Code explanation	Commentary
		<p>subsequently granted two prospecting permits (totaling ~74sqkm) on the southern shore of Lake Mahinerangi (inside the current application area) and in the headwaters of Stony Creek in the Lammerlaw Ranges (outside the western boundary of the current application area). BHP conducted stream and rock chip sampling in these areas. Macraes Mining Company Limited bought these two prospecting licences in 1990 and conducted geological mapping, rock chip and soil sampling (Au, As, Cu, Pb, Zn, Sb and Hg) throughout the early to mid 1990's. The Macraes work included grid based soil sampling focused in 4 areas; the Antimony/Bucks/Fulton Area (to the west and outside EP), Bella Mine Area (to the west and outside EP), Cosmopolitan/Coxes Area (southern margin of which is included in the EP) and the OPQ area (within the EP). Two kilogram samples of the "C" horizon were taken where possible and analysed for Au by active cyanide leach by Analabs (Brisbane) and Australian Laboratory Services (NZ) Ltd. However thick loess cover in the OPQ area and especially immediately south of OPQ meant soils sampling was slow and difficult with some holes abandoned in loess at greater than 3 metres depth (Yeo, 1997).</p> <p>Commonwealth Resources Ltd conducted prospecting over a ~32sqkm licence in the Waitahuna Heights area (southeastern corner of current application area) from 1996-1998 producing limited mapping and a small number of mineralised float assays.</p> <p>Recent exploration efforts in the area include alluvial gold prospecting by Kaipara Ltd at Mitchells Flat (~22sqkm immediately south of Lake Mahinerangi) and limited reconnaissance mapping by Hardie Resources Ltd for Middle Island Resources Ltd over the wider Lake Mahinerangi area and Lammerlaw Ranges (579sqkm).</p> <p>Glass Earth held a prospecting permit over a very large area of Otago which included the Mahinerangi and the Teviot application areas (Glass Earth, 2010). Parts of the Mahinerangi Block within Glass Earth's prospecting permit were surrendered at stages throughout the permit. Glass Earth compiled legacy data, conducted a regional geophysical survey (Fugro, 2007) and subsequently completed regional geochemical sampling. Glass Earth completed little geochemical sampling in the Mahinerangi area before selling and leaving its South Island permits in 2013. Glass Earth (2010) references stream sampling conducted over the application area by Newmont. NAE has, as yet, been unable to locate the source report for this data.</p> <p>References:</p> <p>Fugro Airborne Surveys Pty Ltd. 2007. Airborne Geophysical Data. Glass Earth Gold Ltd. Ministry of Economic Development, Wellington, New Zealand, unpublished open-file mineral report MR4327.</p> <p>Galvin. 1906. New Zealand Mining Handbook pg 163-166 Description of history of OPQ</p> <p>Glass Earth (NZ) Ltd. 2010. Combined Partial Surrender Report for PP 39322. Ministry of Economic Development. Unpublished Mineral Report MR4666.</p> <p>Greive, P. L. 1994. PL 31-25 3 6 Mahinerangi and PL31-25 3 7 Waipori, Otago, New Zealand. Three year</p>

Criteria	JORC Code explanation	Commentary
		<p>technical work report for the period ending 6 October 1994. Ministry of Economic Development, Unpublished Mineral Report MR3321.</p> <p>Hardie Resources Ltd. 2013. PP 54359 Surrender Report for Mahinerangi Block. NZP&amp;M, Ministry of Business, Innovation &amp; Employment (MBIE), New Zealand. Unpublished Mineral Report MR4970</p> <p>Kerber, S. P. 1988. Exploration license 33305 Waipori, Otago, New Zealand, Final Report November 1988. Ministry of Economic Development, Unpublished Mineral Report MR2126.</p> <p>Marshall, P. 1918. The Geology of the Tuapeka District, Central Otago Division. Department of Mines, Geological Survey Branch, 124p.</p> <p>McDonnell, R. 1936 Borelogs Mitchells Flat, Waipori. Ministry of Economic Development, Unpublished Mineral Report MR2085.</p> <p>Riley, P., and Coleman, A. 1972. Report on geological and geochemical survey, Waipori area. Ministry of Economic Development, Unpublished Mineral Report MR2102.</p> <p>Warburton, E. L. 1981. Prospecting reports on PL 31613 and 31614 Waipori River near Stoney Creek. Ministry of Economic Development, Unpublished Mineral Report MR2113.</p> <p>Williams, F. A. 1935. Prospecting operations in Otago. Progress report for May 1935. Ministry of Economic Development, Unpublished Mineral Report MR3145.</p> <p>Wilson, D. P. 1935. Borelogs Lammerlaw and North West Creek, Waipori. Ministry of Economic Development, Unpublished Mineral Report MR2455.</p> <p>Yeo, W. J. A. 1997. PL 31 2536, Mahinerangi and PL 31 2537, Waipori. Report for October 1991 to October 1997. Macraes Mining Co Ltd. Ministry of Economic Development, Unpublished Mineral Report MR 3544</p>
<b>Geology</b>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<p><b>Exploration Permit Area</b> – Gold and antimony mineralisation in the Waipori – Lake Mahinerangi area is associated with historically mined, quartz vein filled, narrow fault systems such as Otago Pioneer Quartz (OPQ) that cross cut foliation within Lower Greenschist Facies schist from the Caples Terrane meta turbidites. The lodes cut the nose of the Lammerlaw Antiform at low to high angles and generally trend north west. The OPQ lode strikes 160° and dips approximately 50° to the north east. This mineralisation represents late stage gold bearing fluid emplacement in brittle schist.</p>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>• <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> </li> </ul>	<p>Not Applicable – no drillholes are included in the Exploration Results</p>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	Not Applicable
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	Not Applicable
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	Appropriate maps, plans, sections and other views of the interpreted mineralisation are included in the announcement.
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	The announcement presents all of the salient exploration data that supports the results presented and where summarised is done so in such a way as to convey all of the results in a balanced manner.
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	All relevant information has been presented in the announcement.
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	The announcement summarises the work programs proposed by NAE in their prospecting permits