

# **Information Sheet No. 19**

Dear Shareholder,

This is the latest report in a series intended to keep you up to date with developments in Catalina Resources PLC ("Catalina"), appraise you of recent developments and inform you of our plans for the future. It will be added to the Catalina website <u>www.catalinaresourcesplc.co.uk</u> in the near future.

### Headlines

- The background to some recent developments is presented.
- Convertible Unsecured Loan Stock has been established thus removing significant short-term debt from the Catalina Balance Sheet.
- Loan Finance to undertake geophysical surveys at Jiguata and Toculla has been secured.
- A re-assessment of the geology of the Jiguata area in the light of new data has indicated that future exploration objectives should focus on copper porphyry mineralisation in addition to epithermal gold.
- A reconnaissance Induced Polarisation (IP) survey at Jiguata has discovered a large previously unknown chargeability anomaly measuring some 6 km by 4 km the most likely cause of which is one or more porphyry intrusion/s at depth. The limits of the anomaly have yet to be defined it is open to the northwest.
- As a consequence, Catalina has acquired additional concessions near Jiguata to secure the extensions of this new discovery, increasing the current land-holding to 10,000 hectares.
- A reconnaissance IP survey is underway at Toculla, the results of which will be reported in a subsequent Information Sheet.

### **Background to recent developments**

On 30 October 2012, I wrote to inform you that Mariana Resources Ltd had formally announced its relinquishment of the Option-to-Purchase Agreement on Catalina's Jiguata Project in Northern Chile in order to concentrate its efforts on a new exploration project in northern Peru and its existing projects in Argentina.

The above did not diminish our enthusiasm for the Jiguata area and we focussed our subsequent efforts on trying to find other sources of funding to allow us to complete additional exploration. Unfortunately, the timing of this effort corresponded with a period of retrenchment in mineral exploration worldwide, with Chile being no exception, and our efforts were not successful.

As a consequence, corporate expenditures in Catalina were reduced to a minimum apart from unavoidable administrative costs - in particular all costs associated with maintaining the Company's Chilean mineral properties in good legal standing.

#### **Convertible Unsecured Loan Stock 2016**

None of Catalina's directors or officers (the Principals), all of whom are shareholders in the Company, have taken payment of any fees, salaries or allowances from the Company since 2010. Instead, all sums due were treated as accruals on the Balance Sheet to the point where they reached £432,379 in the Company's 2013 Report and Accounts, rising to £492,129 as at 31 March 2014.



Despite the fact that all those concerned had signed agreements with the Company deferring settlement until such time as funds would permit, it became clear that the presence of such a large accrual on the Balance Sheet would have a detrimental effect on the Company's ability to raise additional funds for exploration.

As a consequence, the Company, by Resolution of the Board of Directors passed in April 2014, created a £492,129 5% Convertible Unsecured Loan Stock 2016 ("the Loan Stock"). The Principals, in consideration of the Loan Stock being issued to them, fully paid, have agreed to waive once and for all and to release the Company from its liability to payment of the sums accrued to date and, additionally, they have agreed that they shall not invoice or accrue any further fees, salaries or allowances until such time as the Loan Stock is repaid, converted or reaches Maturity Date or the Company has sufficient working capital to allow payment of fees, salaries and allowances to recommence. Interest will accrue on the Loan Stock at a rate of 5% per annum.

The decision to take this approach reflects both the confidence of the Principals in the future of the Company and also the valuable support from shareholders during the last few difficult years.

### Loan Finance

In February 2014, a further loan of £50,000 on similar terms to the existing arrangements was received from Phipps & Company Limited. This allowed Catalina to commence reconnaisance geophysical surveys at the Jiguata and Toculla projects. No other significant fund-raisings have taken place either during or since the yearend.

The survey at Jiguata has produced some exciting results which are described below. The Toculla survey is underway.

#### **The Jiguata Project**

Jiguata is located almost 150 km east-northeast of the city of Iquique in Region I of Chile. Access is straightforward – a 3-hour drive from Iquique. The small village of Lirima lies 7 km to the southwest. The project lies at an elevation of between 4,600 and 4,700 m (~15,000 feet) above sea level).



### Figure 1. Location of the Jiguata Project.



### **Background**

The Jiguata Project was initially targeted as a high-sulphidation epithermal gold project. This was based on its geological setting, the styles of rock alteration observed and the anomalous levels of As, Ba, Bi, Hg, Mo, Pb, Sb and Te revealed by geochemical analyses of rock chip samples from the area.

Extensive areas show evidence of hydrothermal alteration and, from its form and expression, it was recognised that only the highest portions of the proposed epithermal system are exposed at surface, the main part of the system remaining hidden at depth. In this scenario, anomalous gold and silver values are unlikely to be present at surface. If the above setting is correct, possible exploration targets would be parallels to buried high sulphidation epithermal deposits such as Puren, near La Coipa. Puren has no surface expression but contains a M&I Resource of 1.53 Moz Au equivalent.

High sulphidation gold projects are genetically related to and often found adjacent to porphyry copper systems. It is from porphyry copper deposits that the majority of Chile's copper is mined.

The first indications that a porphyry-style system might be present at Jiguata came during a brief mapping exercise in 2012 when the presence of high-level porphyry intrusions and porphyry-style veining were noted in outcrop. A subsequent review of previous work at Jiguata by Codelco (the national mining company of Chile) in the mid-1990s revealed that two shallow scout RC boreholes had been drilled which reported several zones of quartz-veinlet stockwork with anomalous Cu-Mo geochemistry – additional indications of possible porphyry mineralisation.

Analysis of samples from the two holes returned:

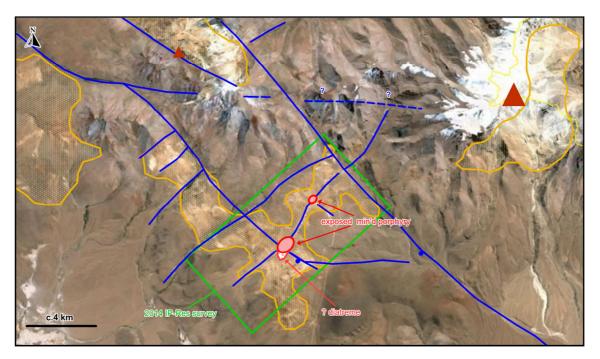
- An upper zone of 76 m (52-128 m) with average grades of 251 ppm copper and 107 ppm molybdenum, with maximum values of 5,555 ppm Cu and 250 ppm Mo.
- A lower zone of 163 m (138-301 m) with average grades of 102 ppm copper and 192 ppm molybdenum with maximum values of 1,240 ppm Cu and 933 ppm Mo.

Neither of the above intersections can be classed as economic mineralisation but because the holes ended in ground still hosting anomalous Cu-Mo values it became clear that the development of porphyry-style geology was probably more extensive than first thought and that exploration objectives should focus on copper porphyry mineralisation in addition to epithermal gold.

It was then decided that this could be best achieved by undertaking a broad-scale, reconnaissance geophysical survey using Induced Polarisation (IP) to indicate whether Jiguata is underlain by a porphyry system and to quantify its possible size.



## The Geological Setting of the Jiguata Project



### Figure 2. A district-scale satellite image of the Jiguata area showing:

- a) The approximate area of the IP-resistivity survey the rectangle outlined in green
- b) Areas of significant hydrothermal alteration at surface (the irregular orange outline)
- c) The location of the mineralised porphyry occurrences mapped to date at Jiguata (the pink/red outlines)
- d) Principal district-scale faults (blue) inferred from satellite imagery. These fall into two groups: (a) major, parallel, NW-striking structures and (b) a second set of NE-trending structures
- e) There is a large Miocene age volcanic centre to the NE of Jiguata (the large red triangle) which is separated from Jiguata or controlled by one of the NW-striking faults

The size of the area under investigation is indicated by the scale-bar in the lower left of the image.

Figure 1 also shows that the rocks at Jiguata affected by hydrothermal alteration (the light-coloured area described in (b) above) are partly concealed by a widespread younger cover of largely unaltered, darker coloured, sub-horizontally dipping volcanic lava flows. These extend over a large part of the area and occupy the flanks of the major volcanic centre to the NE of Jiguata - (e) in Figure 1.

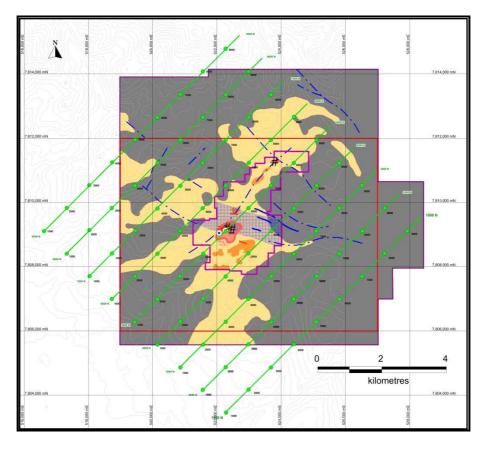
The alteration occurs in an extensive zone (with poorly defined limits) and comprises a variety of types. It is exposed locally in valleys in the central and SW parts of the concession. The rocks hosting this alteration comprise a sequence of coarse- to fine-grained lithic, crystal-lithic and ash tuffs of inferred dacitic composition, intruded by sill-like and locally more plug-like bodies of feldspar-biotite-hornblende porphyry.

The alteration types are roughly stacked above each other and can be sub-divided into the following assemblages:

- High-level "steam-heated" advanced-argillic alteration (opal-cristobalite-alunite-kaolinite-sulphur)
- Mid-level stratabound chalcedony ± opaline silica horizons (indicative of palaeo-water table levels)
- Deeper, blanket-like, hypogene alunite-bearing (and pyritic) advanced-argillic alteration assemblages partly exposed at the lowest elevations in the base of valleys cutting the area
- Argillic alteration of porphyry indicates some telescoping of the alteration package

This zonation indicates that erosion has only reached relatively shallow levels in the hydrothermal system.





### Figure 3. Current knowledge of the geology of the Jiguata area showing:

- a) The area covered by the younger volcanic cover rocks (dark grey)
- b) The older hydrothermally altered rocks (yellow)
- c) The area mapped in detail to date (the rectangular purple outline)
- d) The lines of the IP survey (green), not all lines were completed
- e) Traces of observed and inferred faults (dashed blue lines) probably controlling the drainage pattern
- f) The location of porphyry in outcrop (pink) and porphyry-style veins (hash)

In addition, a broad NW (to WNW) striking structural corridor (light-purple chequered area in Figure 2), is inferred to strike through the core of the property. This is corroborated by (a) short strike-length mapped fault features, (b) lineaments, (c) brecciation of silicic alteration within the corridor and (d) the preferred NW orientation of several mineralisation features.

The main outcropping porphyry occurrence lies at the intersection of this structural corridor with a valley-forming structure (fault) at almost right angles and strikes to the NE. This intersection correlates with strongly anomalous molybdenum values in rock samples at surface and in the shallow drillholes.

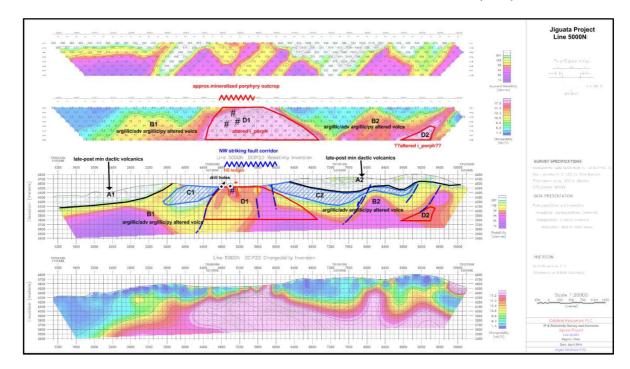
A poorly-defined breccia unit - possibly a diatreme – occurs nearby. The breccia displays advanced-argillic alteration and hosts a range of advanced-argillic and silicic altered clasts, including vein mineralised porphyry. It is developed at the SW margin of the main mineralised porphyry occurrence.

#### The recent IP Survey at Jiguata

The geophysical contractor completed six lines, one-kilometre apart, and varying in length from 7,600 to 9,600 metres for a total of 53.8 line kilometres.



Data from the surveys were presented in a series of sections and plans showing the geophysical response at different elevations. The sections show a variety of features which vary from section to section. Rather than give a detailed breakdown of the results, the section from Line 5000 is shown below to demonstrate the principal features.



### Figure 4. Interpreted section: Line 5000N

A typical section comprises, from the top, four plots: Apparent Resistivity, Chargeability, Resistivity Inversion and Chargeability Inversion. In general terms, the geophysical data correlate with the geological observations given above and the following has been inferred.

Near-surface, shallow depth, blanket-like resistive features (A1 and A2) in the SW and NW part of the line, clearly correlate with the upper, unaltered dacitic volcanic cover rocks. Variations in thickness may indicate local thickening of the dacite cover or blind stratabound silicic alteration (chalcedony ± opaline silica) preserved immediately below.

The extensive zones of moderate chargeability and weak resistivity (B1 and B2) and (C1 and C2) likely reflect the underlying altered volcanic stratigraphy and an intrusive component. The strongly resistive feature (C1 & C2) extending a short distance under dacite cover may indicate high-level opaline silicification and/or possible underlying chalcedony.

The very prominent chargeability high in the central part of the line clearly correlates with outcropping intrusive porphyry, hosted within (and very likely controlled by) the proposed NW striking structural zone (Figure 2) passing through the core part of the prospect area. Porphyry intrusive outcrops here are commonly very highly pyritised – as indicated by the Codelco drilling.



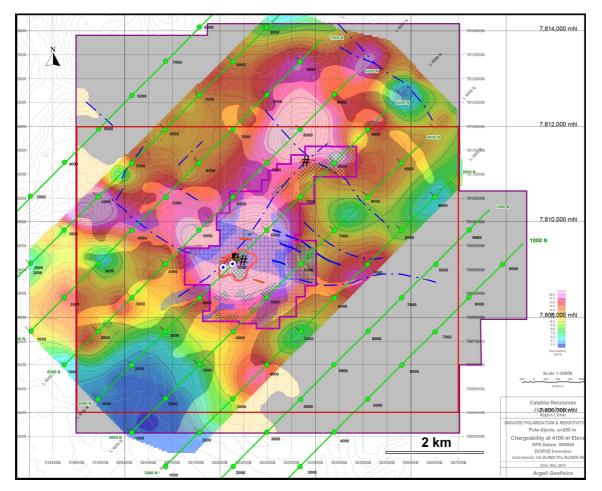


Figure 5. A horizontal "slice" through the chargeability data at 4000m elevation, superimposed on the geological map of the Jiguata area.

The two Codelco drill-holes (which lie almost exactly on the L5000 geophysical profile) coincide with the area of highest chargeability response at depth (< 33 mV/V)

A second high chargeability response in the NE part of the line (D2), by analogy with the main outcropping porphyry occurrence described above, might point to a second, blind, strongly pyritised intrusive apophysis in the NE part of the prospect area. Any such apophysis could conceivably merge with the western intrusive body at depth.

The possible thickened shape of the dacite cover at approximately 8000E, hints at a W-dipping normal fault crossing the section, which perhaps not surprisingly coincides with a NW striking linear feature at surface. This appears to both control alteration and the location of weak porphyry mineralised intrusives at its intersection with the main, structurally controlled NE trending drainage.

Note also the WNW structural corridor and the presence of at least two circular anomalies possibly relating to porphyry intrusives. The intrusions are substantial in size - the central intrusion is 3 by 2.5 km; the northern body is 2 by 2 km.

### Implications of the recent developments

The new interpretation of the geology of the Jiguata area presented above represents a considerable advance in our understanding of the area. Furthermore, it greatly expands the geological potential of the area because, although there is no guarantee at this stage that these newly-identified targets carry economic mineralisation, the focus of Jiguata has



shifted from an epithermal gold target to one or more possible copper porphyry targets – an increase of several orders of magnitude.

Follow-up detailed geological mapping and geochemical sampling and additional geophysical surveys are planned once additional funds have been raised. The IP survey has yet to define the full limits of the underlying porphyry intrusives and the purpose of this work will be to define the extent and principal parameters of the potential porphyries before seeking a joint venture partner to assist with the funding of more detailed, later-stage exploration.

The geophysical survey has demonstrated that IP reflects the underlying geology and additional surveys, on more closely-spaced lines, will be valuable in defining targets for future scout drilling.

### **New Concessions Acquired near Jiguata**

Minera Catalina SA applied for its first Jiguata exploration concessions "pedimentos" in July 2010. In Chile, such exploration concessions have a two-year life.

In August 2013, Catalina registered sixteen new "pedimentos mineros" or exploration concessions (Jiguata 1A-16A) in the Court of Pozo Almonte. These overlaid the original Jiguata 1-16 concessions and have safeguarded Catalina's mineral rights until August 2015. Jiguata 17A -19A were registered during April 2014, replacing the earlier Jiguata 17 to 19 concessions.

Following the recent recognition of the copper porphyry potential at Jiguata, additional pedimentos Jiguata 20A to Jiguata 35A have been added, raising the total ground held to 10,000 hectares. The Jiguata chargeability anomaly extends to the southeast towards the Jiguata 24A - 26A concessions and to the northwest towards the Jiguata 27A - 35A concessions. The concession ownership map (catastro minero) of the Jiguata area shows the layout of the various concessions (Figure 6).

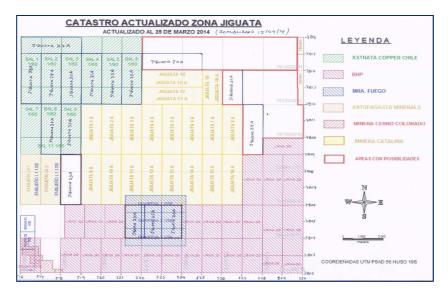


Figure 6. The Jiguata 1A - 35A Concessions (this is a provisional version only; an update is in progress)



If you want to know more about any of the topics in this Information Sheet, or if you have any questions, please call me or send an email to <u>psb@catalinaresourcesplc.co.uk</u>.

#### Peter Bridges

Managing Director, Catalina Resources PLC

13 June 2014

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