

# MAPPING RESULTS CONFIRMS NEEDLES PROJECT AS A VIABLE EXPLORATION GOLD PROJECT

Astro Resources NL is an Australian-based mineral resources company focused on the commercial development and production of economically and environmentally sustainable mineral sands deposits, diamonds, gold and other minerals.

## **Highlights**

The geological mapping and sampling of the Needles Property and examination of 199 historical precious-metal workings have provided the following results:

- significant gold and silver assays up to 5.5g/t Au and 406g/t Ag were returned from both dump and outcrop samples.
- strong alteration and volcanic lithologies were observed across the property consistent with the "Round Mountain" gold deposit exploration model used by the Company.
- the orientations of the key mineralised trends and structures were established. The sampling indicates that anomalous Au and Ag appear to be associated with a major northeast trending structure (with subsidiary northwest trending structures) that extends throughout the property.
- the highest-grade sample is in the western part of the Needles Property, called the "Tomahawk area", which is encouraging, as it lies within the main target zone.

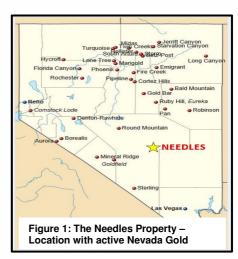
Astro Resources NL (**ARO** or **Astro**) is pleased to provide the following update to the previous ASX release dated 9 October 2020 on its Needles gold project, located in Nevada, USA (Figure 1).

This update reports on the geological mapping of the property and on assay results obtained from rock chip samples collected during the mapping programme.

Astro Chairman Jacob Khouri commented "the Board of Astro are highly encouraged by the geological mapping results and promising gold and silver assays. In particular, the results from the Tomahawk area point to it possibly being a strong Round Mountain-type target and we look forward to progressing our exploration program in the area.

#### **Mapping and Rock Chip Assays**

Assay results of the 97 rock chip samples collected at the Needles Property during the September geological mapping programme have been received. Significant gold and silver assays up to 5.5g/t Au and 406g/t Ag were returned from both dump and outcrop samples (Table 1 and Figure 2). Fourteen of the samples were anomalous in gold and/or silver (greater than 0.15g/t Au or 8 g/t Ag). The anomalous samples appear to "line-up" in a regional northeast direction consistent with the results from mapping which indicated the presence of numerous steeply dipping north-east oriented mineralised structures around old mine workings and in outcrop (Figure 3). A northwest trend is also present although its importance is not yet fully understood.





Most of these samples were collected from dumps associated with historical workings, with the remainder taken from outcrops. Locations of the samples are presented in Figure 2, with photographs of some shown in Figures 10 to 12.

**Table 1: Rock Chip Sample Assays** 

Sample No.	Au (g/t)	Ag (g/t)	Туре	Comment	
47	5.54	406	Dump	120m west of Tomahawk Shaft	
92	1.43	47	Dump		
28	1.35	405	Dump	Arrowhead Shaft	
96	1.16	6.0	Outcrop		
90	1.11	5.4	Outcrop		
39	0.38	66	Dump	Tomahawk Shaft	
38	0.33	89	Dump	Tomahawk Shaft	
94	0.32	2.0	Dump		
10	0.31	2.4	Dump		
37	0.31	11	Dump	Tomahawk Shaft	
89	0.27	1.9	Outcrop		
27	0.18	67	Dump	120m west of Tomahawk Shaft	
09	0.13	9.0	Outcrop		
76	0.10	8.6	Dump	Pit	

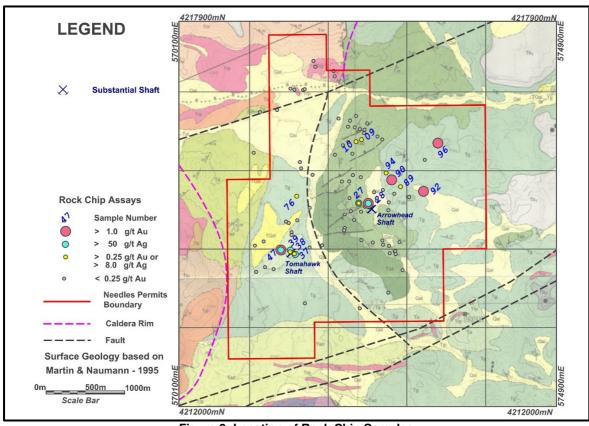


Figure 2: Location of Rock Chip Samples

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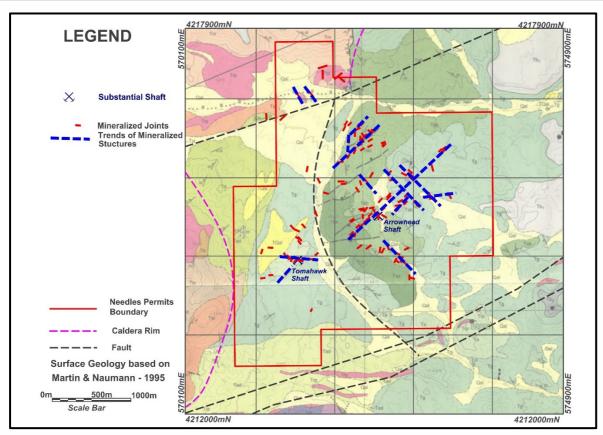


Figure 3: Mineralized structures defined in the mapping

During mapping, the majority of the samples and geological measurements came from the eastern section of the property, due to the fact that there is much more outcrop in this section, with most of the lower western section covered by alluvium. Examination of outcrops present in gullies in the western section however, showed the presence of sub-horizontal welded and compacted tuffs (Figure 4). Such impervious cap units are important as they act as traps to mineralising fluids that ascend along the steeper open structures. Pervasive mineralisation is then trapped within weakly compacted porous tuff units beneath the compacted units such as at the Round Mountain gold deposit. Porous tuff units have recognised and mapped within the Needles property.

The presence of widespread precious metal mineralisation within the property is confirmed by the number of historical workings located during the mapping programme (Figure 5).

The confirmation of the presence of both compacted and porous volcanic tuff units, of steeply dipping structures associated with high grades of both gold and silver mineralisation, and of mapping of pervasive alteration (Figures 7 and 8) is positive in terms of the potential presence of extensive Round Mountain style mineralisation.

The Kinross operated, 15Moz low to moderate grade (1.5 - 2.5 g/t Au) gold-silver deposit at Round Mountain, 100km to the northwest of Needles (see Figure 1) provides the most appropriate exploration model for the Needles Property.

The gold and silver bearing hydrothermal fluids that created the Round Mountain Deposit were controlled by permeability in Tertiary volcanic rocks and related structures. Sub-horizontal impermeable volcanic units acted as a trap, concentrating the Au-Ag beneath them, within permeable tuffs and in cross-cutting fractures. A graphic of this mineralisation is shown as Figure 6. The Needles Property contains similar sub-horizontal volcanic units of the same age and has a similar structural setting.

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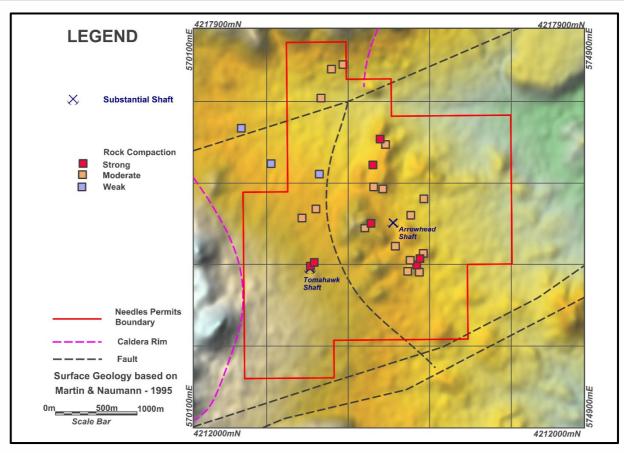


Figure 4 Rock Compaction Locations on SRTM image

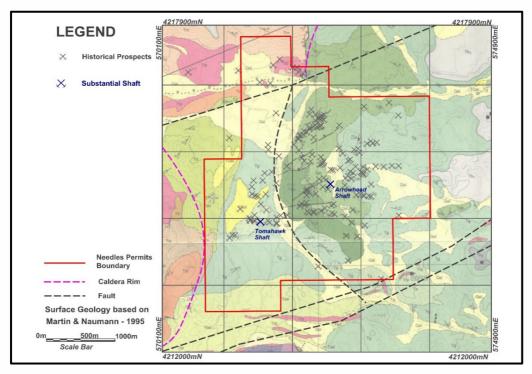


Figure 5 Historical Shafts and Prospects

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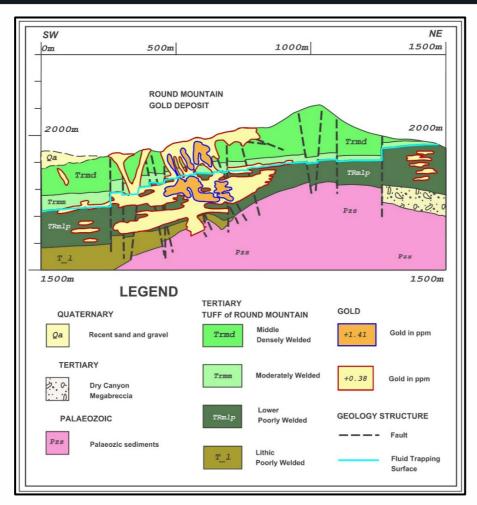


Figure 6 Generalized cross-section of Round Mountain

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Figure 7 Pervasive alteration in historical drill core near Arrowhead Shaft



Figure 8 Arrowhead Shaft and Dump - view to north

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Figure 9 Pervasive alteration around Tomahawk Shaft



Figure 10 Sample 47 (5.54g/t Au and 406g/t Ag) - from dump 120m west of Tomahawk Shaft

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Figure 11 Sample 28 (1.35g/t Au and 405g/t Ag) - from dump at Arrowhead Shaft



Figure 12 Sample 28 (0.33g/t Au and 89g/t Ag) - from dump at Tomahawk Shaft

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#### **Conclusions**

The key conclusions from the September 2020 mapping and sampling programme are:

- 1. samples anomalous in Au and Ag appear to be associated with a major northeast trending structural zone that extends throughout the property. There is a subsidiary northwest trending structure that is also anomalous.
- 2. the concept of numerous steeply dipping highly mineralized structures of possibly short lateral extent would seem to fit the geochemical data.
- 3. the Round Mountain concept, feeding off these steep structures is valid.
- 4. the highest-grade sample is in the Tomahawk area, which is encouraging, as it lies in the main target zone.

### **Planned Exploration**

As previously announced Astro has accepted a quote for an electrical DC/IP survey from Zonge International. Zonge has advised that the survey is currently scheduled for December 2020, with processing of results expected sometime in January 2021. The survey is designed to infill the 2018 survey to 200m line- spacing and extend it to the west to close off the southwest chargeability anomaly discovered in the 2018 survey (Figure 13). The results of this survey will provide higher resolution of the chargeability anomaly and allow the creation of a robust inversion model, which will provide a better understanding of the distribution of sulphides at depth which maybe associated with gold mineralisation. This model will be used to constrain the location of holes in future drilling programmes.

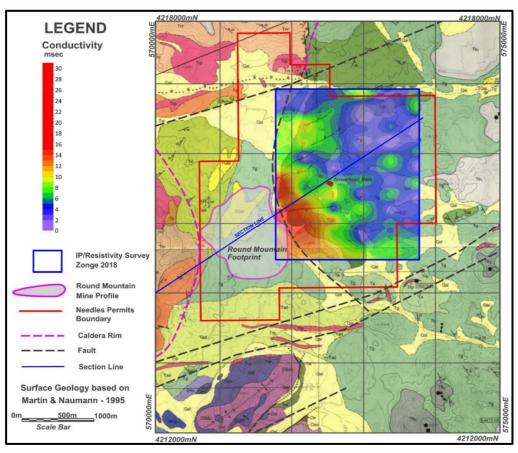


Figure 13 2018 DC/IP Survey 2018 - Chargeability Image

# 1 December 2020



Astro is pursuing seismic contractors to provide estimates of availability and cost to carry out a proposed three - line survey over the western part of the Needles Property. The results of the seismic survey will provide a depth profile of the shallow dipping volcanics and their relative compactions, which affect porosity, a critical component of the Round Mountain gold deposit model that Astro is using for Needles. The survey will also help locate sub-vertical faults that may have disrupted the volcanic sequence, including hidden faults with no surface expression, which may host epithermal bonanza style gold mineralization. The results of the survey will also be used to help plan systematic drilling programmes.

#### **BOARD APPROVAL**

This announcement has been approved by the Board of Astro.

#### **ENDS**

For enquiries, please contact:

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The information in this report that relates to Exploration Results for the Needles Property is based on information compiled by Richard Newport, principal partner of Richard Newport & Associates – Consultant Geoscientists. Mr Newport is a member of the Australian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person under the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Newport consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

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## **APPENDIX 1**

## JORC - Table 1

# **Section 1 Sampling Techniques and Data**

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg 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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Rock chip sampling of selected sites was conducted during geological mapping of the Needles Property. The samples weighed approximately 1.5kg per sample. All samples were taken from outcrops and prospect dumps and trenches. No systematic channel sampling was carried out.</li> <li>All samples were sent for assay.</li> </ul>
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).	• NA
Drill sample recovery	<ul> <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>	• NA
Logging	<ul> <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>	All surface rock chip samples were GPS located at the time of sampling and all samples were photographed as a permanent record before completing bagging for assay. Geological descriptions of the samples were also recorded.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	The whole sample was taken for assay, as is normal industry practice for reconnaissance rock chip sampling of surface areas.



Criteria	JORC Code explanation	Commentary
	<ul> <li>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>	
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	Samples were processed by ALS Chemex at its Reno, Nevada laboratory utilizing a standard sample preparation for rock chips (ALS codes WEI-21, LOG-22 CRU-QC, PUL-QC, DRY-21, CRU-31, SPL-21 and PUL-31). A suite of 35 chemical elements were assayed for using method ME-ICP41 and elements reporting higher values were reassayed by methods AgOG46 and MEOG46, all samples were subjected to Aqua Regia acid digest. Additionally, a 30gm fire assay (ALS code Au-AA23) with AAS finish was conducted on all samples. No internal duplicates were collected or sent for assay
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>All data was collected on hard copy sheets recording pertinent information relating to sample location and description.</li> <li>All relevant data was provided by the Consultant Geologist tasked with the mapping and sampling and provided in electronic format and retained by the Company.</li> </ul>
Location of data points	<ul> <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>	<ul> <li>All sample locations were collected utilizing a hand held GPS instrument and recorded in NAD27 datum. These locations were transformed into WGS84 UTMZ11N. Elevations were derived from SRTM digital terrain model using a Geoid 09 height datum. Estimated x and y error 5m. Estimated z error 10m.</li> </ul>
Data spacing and distribution	<ul> <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>	Samples were not collected using a pre- determined spacing.
Orientation of data in relation to geological structure	<ul> <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>	<ul> <li>Samples were collected on the basis of recognizing mineralizing structures at surface and dump and trench samples from sub- surface excavations. The exact orientation of the samples from the dumps and trenches is not known.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Samples were bagged on site and transported to Reno for assay by the Consultant Geologist. Who submitted them for assay.</li> </ul>
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	No external audits have been done.

# Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary		
Mineral tenement and	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title	<ul> <li>ARO has 100% of the mineral rights, via a wholly owned US subsidiary, to 113 contiguous unpatented lode mining claims in Nevada, USA referred to as the "Needles</li> </ul>		



Criteria	JORC Code explanation	Commentary
land tenure status	<ul> <li>interests, historical sites, wilderness or national park and environmental settings.</li> <li>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.</li> </ul>	<ul> <li>Property". These claims encompass an area of 945 hectares.</li> <li>There is a 2% NSR on the Property held by District Gold Inc.</li> <li>The claims are renewed annually on or before September 1 each year through the payment of an annual fee per claim to the BLM.</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	Previous exploration has been summarised in the NI43-101 Report available on SEDAR titled "NI 43-101 TECHNICAL REPORT on the THE NEEDLES Au-Ag PROPERTY Arrowhead Mining District, NYE COUNTY, NEVADA, USA" (2010) MPH Consulting Ltd.
Geology	<ul> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	Primary target is a combination of low sulphidation epithermal bonanza lode gold vein mineralization and associated "Round Mt" style epithermal stratabound gold
Drill hole Information	<ul> <li>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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <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>	All historic information is available in the NI 43-101 referenced above and in the JORC 2012 table included in the Astro announcement dated 19th December 2019 titled "Needles Drilling"
Data aggregation methods	<ul> <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>	• NA
Relationship between mineralisation widths and intercept lengths	<ul> <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>	• NA
Diagrams	<ul> <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>	Included in ASX announcement
Balanced reporting	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.	• NA



Criteria	JORC Code explanation	Commentary
Other substantive exploration data	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.	• NA
Further work	<ul> <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>	<ul> <li>Infill and extension of the 2018 DC/IP survey in the west of the Property</li> <li>A three-line shallow seismic survey is proposed for the western half of the Property.</li> <li>Based on the above results, a drilling program will be proposed to test targets defined in the above surveys.</li> <li>An Investor Update reviewing all the further work planned was released to the market by Astro on 21st August 2020 clearly highlighting the exploration areas of interest.</li> </ul>



# **APPENDIX 2**

Table 2 Locations of anomalous rock-chip samples

Comple No	Au	Ag	Easting	Northing	Elevation
Sample_No	(g/t)	(g/t)	WGS84 Z11S	WGS84 Z11S	(m)
09	0.13	9.0	572423	4216395	1924
10	0.31	2.4	572354	4216370	1912
27	0.18	67	572388	4215589	1931
28	1.35	405	572510	4215586	1918
37	0.31	11	571570	4214939	1887
38	0.33	89	571528	4214960	1968
39	0.38	66	571516	4214965	1967
47	5.54	406	571398	4214987	1972
76	0.1	8.6	571599	4215677	1935
89	0.27	1.9	572920	4215798	1891
90	1.11	5.4	572807	4215885	1894
92	1.43	47	573212	4215739	1875
94	0.32	2.0	572736	4215972	1899
96	1.16	6.0	573395	4216352	1839