# EXPLORATION UPDATE

**Key points**

- **No significant gold intercepts in first reverse circulation (RC) drilling program at the Pluto project in Nevada**
- **Planning underway for drilling at the South Roberts and Ecru projects in Nevada, to commence in April after Swedish winter drill campaign**
- **Swedish drilling to resume after Christmas break on Granbergs and Nasvattnet targets**

S2 Resources Ltd ("S2" or the "Company") provides the following update regarding the results from its exploration programs in Nevada and Sweden.

**Pluto, Nevada**

Gold assay results have been received from four deep reverse circulation (RC) holes drilled in October/November as an initial "proof of concept" program. No significant gold was intersected. As stated in S2's ASX announcement of 26th October 2017, the prime objective of the drilling was to test for the presence of favourable host rocks – particularly a limestone bearing unit known as the Antler sequence - rather than to necessarily directly detect mineralization.

These four RC holes intersected a thick sequence of Havallah Formation mudstones, considered to form the hangingwall seal to the more favoured Antler sequence host-rocks, but as stated in the ASX presentation of 21st November 2017, no obvious Antler sequence rocks were intersected. These results will be reviewed in early January prior to any further work being undertaken at Pluto.

**South Roberts and Ecru projects, Nevada**

Planning is underway for drilling at the South Roberts and Ecru projects in Nevada, where the Company intends to commence its first drilling programs on each of these projects once they are accessible. This is most likely to be from April 2018 onwards.

**Sweden**

Drilling is about to resume in Sweden following a brief break for Christmas. The rig is set up on the Granbergs target (refer to ASX announcement of 20th December 2017), and a second rig has been booked to commence drilling three targets in the Nasvattnet area in early January (refer to ASX presentation of 21st November 2017). Drilling will continue to test these and several other targets from

January through to March 2018. A number of targets have also been identified for drilling during the summer.

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## Competent Persons statements

Information in this report that relates to Exploration Results from Nevada and Australia is based on information compiled by John Bartlett, who is an employee and shareholder of the Company. Mr Bartlett is a member of the Australian Institute of Mining and Metallurgy (MAusIMM) and has sufficient experience of relevance to the style of mineralization and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Bartlett consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

Information in this report that relates to Exploration Results from Sweden and Finland is based on information compiled by Andy Thompson, who is an employee and shareholder of the Company. Mr Thompson is a member of the Australian Institute of Mining and Metallurgy (MAusIMM) and has sufficient experience of relevance to the style of mineralization and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Thompson consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

**Annexure 1**

The following tables are provided to ensure compliance with the JORC code (2012) edition requirements for the reporting of exploration results. Co-ordinates in this table are given in North American NAD27, zone 11 grid.

**Pluto RC Drilling**

| Hole No. | Total Depth, m | North | East | RL | Dip | Azim | From, m | To, m | Width, m | Au, ppm |
|---|---|---|---|---|---|---|---|---|---|---|
| NPLC0001 | 304.8 | 4,420,635 | 485,619 | 1758 | -60 | 270 | | | NSI | |
| NPLC0002 | 445.0 | 4,420,639 | 485,533 | 1778 | -60 | 90 | | | NSI | |
| NPLC0003 | 330.7 | 4,420,645 | 485,704 | 1741 | -65 | 90 | | | NSI | |
| NPLC0004 | 321.6 | 4,420,561 | 485,785 | 1733 | -60 | 120 | | | NSI | |

## SECTION 1 SAMPLING TECHNIQUES AND DATA

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| **Sampling techniques** | *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.* | For RC sampling, a split every 5 feet is taken directly from a rotary splitter mounted beneath the rigs cyclone to produce a nominal 5 – 6 kg bulk sample. The cyclone and splitter are cleaned regularly to minimise any contamination. A second reference split is also taken from each metre and stored on site.<br><br>Rock chip samples were collected by random chip sampling with a geological hammer of about fist size material to make a collective sample weight of about 1-2kg |
| | *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used* | Sampling and QAQC procedures is carried out using S2 protocols as per industry best practice.<br><br>For rock chip samples, material were selected randomly without bias to material appearance to give an accurate representation of the sample being collected. |
| | *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* | Samples were dried crushed, split and pulverised (250 grams) and were analysed using an aqua regia digest with an ICP/MS finish (Code AQ201) and by fire assay with an ICP-ES finish (Code FA330). The following elements are included in the assay suite: Ag, Al, As, Au, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, Hg, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S Sb, Sc, Se, Sr, Te, Th, Ti, Tl, V, W, Zn. |
| **Drilling techniques** | *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).* | Drilling was completed reverse circulation (RC) using a 5½' face sampling bit. RC drilling is carried out "wet" to prevent dust generation as required by local law. |
| **Drill sample recovery** | *Method of recording and assessing core and chip sample recoveries and results assessed* | RC sample recoveries are visually estimated qualitatively on every 5 foot sample interval and recorded in the database.<br><br>The estimate is qualitative only as it is based on the sample weight of the two sample bags only as the majority of the sample is discarded in the sump during the wet drilling process. |
| | *Measures taken to maximise sample recovery and ensure representative nature of the samples* | Various drilling additives (including muds and foams) have been used to condition RC drill holes to maximise recoveries and sample quality. Drill cyclone and sample buckets are cleaned between rod-changes and after each hole to minimise down hole and/or cross-hole contamination. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *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.* | No sample recovery issues have been identified relating to potential sample bias within RC drilling.<br><br>RC drilling samples are wet which may have resulted in sample bias due to preferential loss/gain of fine/coarse material. |
| **Logging** | *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.* | Geological logging is completed for all holes to a level of detail that would, where sufficient drill density is completed, support an appropriate Mineral Resource and mining study.<br><br>Lithology, alteration and veining, is recorded directly to a digital format and imported into S2 Resources central database. |
| | *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* | Logging is both qualitative and quantitative in nature depending on the field being captured. |
| | *The total length and percentage of the relevant intersections logged* | All drillholes were logged in full. |
| **Sub-sampling techniques and sample preparation** | *If core, whether cut or sawn and whether quarter, half or all core taken.* | Not applicable - No core drilling has been undertaken by S2 Resources Ltd. |
| | *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* | RC holes are sampled on 5 foot intervals using an on-board rotary splitter. Samples are collected wet as per local legal requirements. |
| | *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* | The sample preparation follows industry best practice in sample preparation. Samples are dried, crushed as required and pulverized to produce a homogenous representative sub-sample for analysis. A grind quality target of 85% passing 75µm has been established and is relative to sample size, type and hardness. |
| | *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* | Laboratory Quality control procedures include submission of Certified Reference Materials (CRM's), blanks and duplicate samples with each batch of samples. Selected samples are also re-analysed to confirm anomalous results.<br><br>Grind size checks are routinely completed to ensure samples meet the industry standard of 85% passing through a 75µm mesh. |
| | *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.* | "Blind" field duplicates are taken at regular intervals and submitted with the rest of the drill hole. The second rotary split sample is used as the duplicate sample. |
| | *Whether sample sizes are appropriate to the grain size of the material being sampled.* | Sample sizes are considered appropriate for gold mineralisation. |
| **Quality of assay data and laboratory tests** | *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* | Samples are analysed for gold using 30g lead collection fire assay with an ICP/ES finish at the Bureau Veritas laboratory in Reno, Nevada. This sample is considered a total digest and the highest quality assay technique available.<br><br>In addition an extensive multi-element suite (including Ag, Al, As, Au, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, Hg, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S Sb, Sc, Se, Sr, Te, Th, Ti, Tl, V, W, Zn) is analysed using an aqua regia digest with an ICP-MS finish. This method is a partial digest, but is considered appropriate to identify potential pathfinder elements which may assist in locating nearby gold mineralisation. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *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.* | No geophysical tools were used to determine any element concentrations used in this resource estimate. |
| | *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.* | Sample preparation checks for fineness were carried out by the laboratory as part of their internal procedures to ensure the grind size of 85% passing 75 micron was being attained. Laboratory QAQC involves the use of internal lab standards using certified reference material, blanks, splits and replicates as part of the in house procedures. |
| **Verification of sampling and assaying** | *The verification of significant intersections by either independent or alternative company personnel.* | The Exploration Manager of S2 has visually verified the results. |
| | *The use of twinned holes.* | Given the early stage of exploration, no twining of drill holes has taken place. |
| | *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* | Primary data was collected using a set of standard Excel templates using lookup codes. The information was sent to an external database consultant for validation and compilation into a Perth based SQL database. |
| | *Discuss any adjustment to assay data.* | No adjustments or calibrations were made to any assay data reported. |
| **Location of data points** | *Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* | Sample sites were recorded by a Garmin handheld GPS with an accuracy about +/– 3m for easting and northing. |
| | *Specification of the grid system used.* | The grid system used was NAD 27 Zone 11. |
| | *Quality and adequacy of topographic control.* | A topographic surface has been created from aerial geophysical data, and this has been used to confirm RL levels for drill holes (note that given the cut and fill nature of the drill pads, the collars have not been corrected to this surface. |
| **Data spacing and distribution** | *Data spacing for reporting of Exploration Results.* | Given the reconnaissance nature of the initial drilling, a notional grid spacing has not been used. |
| | *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.* | Drill spacing does is not currently of adequate spacing for Mineral Resource and Ore Reserve estimate procedures. |
| | *Whether sample compositing has been applied.* | No compositing has been applied to the exploration results. |
| **Orientation of data in relation to geological structure** | *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* | The drilling is not necessarily drilled perpendicular to the orientation of the intersected mineralisation. All reported intervals are downhole intervals and not calculated true width. This will be established with further drilling. |
| | *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.* | No orientation based sampling bias has been identified in the data at this point. |
| **Sample security** | *The measures taken to ensure sample security.* | Chain of custody is managed by S2 Resources. Samples are stored on site and were either picked up from site by the laboratory or delivered to the laboratory in Elko. Tracking sheets have been set up to track the progress of batches of samples. |
| **Audits or reviews** | *The results of any audits or reviews of sampling techniques and data.* | No audits or reviews have been conducted at this stage. |

## SECTION 2 REPORTING OF EXPLORATION RESULTS

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| **Mineral tenement and land tenure status** | 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. | S2 Resources Ltd, through its subsidiary Nevada Star Exploration LLC, is earning into the following mineral tenure via an agreement with Kinetic Gold (US) Inc and its parent company Renaissance Gold Inc. ("RenGold")<br><br>Kinetic Gold (US) Inc (a wholly-owned subsidiary of Rengold) holds 66 Mineral Claims (NMC1098837–1098846; NMC1188192–1108207, NMC1150089 –1150127) within Lander County, NV.<br><br>Kinetic Gold (US) Inc (a wholly-owned subsidiary of Rengold) holds a Lease and Option to Purchase under the Landsgold #1 Agreement the Landsgold #1R Claim (NMC1149184) from SepTech and Lu Anne Odt within Lander County, NV<br><br>All are subject to certain confidential royalty agreements, payable by Nevada Star Exploration LLC to Kinetic Gold (US) Inc and third parties<br><br>Based on a due diligence process, no commercial, historical, native title, heritage or environmental impediments are known |
| | 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. | Based on a due diligence process, the claims are in good standing and no known impediments exist on tenement actively explored. |
| **Exploration done by other parties** | Acknowledgment and appraisal of exploration by other parties. | Previous exploration comprising enzyme leach and conventional soil geochemistry, rock chip sampling and gravity surveying completed by Kinetic Gold (US) Inc (now a wholly-owned subsidiary of Rengold). Two RC holes about 100m deep were previously completed by an unknown party at an unknown location within the property, however these holes have not able to be located on the ground and no data appears to have been preserved. This drilling is considered ineffectual and not relevant due to the shallow depths of the holes. |
| **Geology** | Deposit type, geological setting and style of mineralisation. | The project is located within the Great Basin of Nevada and the deposit type being explored consists of the Carlin-style which comprises fine-grained disseminated replacement sulphide (pyrite) mineralisation in zones of silicified, decarbonatised, argillised, silty calcareous rocks and associated jasperoids.<br>The mineralisation is hosted within Palaeozoic carbonate and siliciclastic sedimentary rocks which were deposited in a marine setting ranging from deep to shallow water on a former western continental margin of North America. These units were deformed by the Antler Orogeny and later intruded by felsic bodies of varying ages. The age of the mineralisation is Eocene and ranges between 34-42 Ma. Later faulting developed the distinctive 'Basin and Range' topography of the area. |
| **Drill hole Information** | 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:<br>• easting and northing of the drill hole collar<br>• elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar<br>• dip and azimuth of the hole<br>• down hole length and interception depth<br>• hole length. | Refer to Annexure1 in body of text. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| **Data aggregation methods** | In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. | All reported assays have been length weighted.<br><br>A nominal 0.1 g/t Au lower cut-off is used for RC drilling, given the reconnaissance nature of the drilling |
| | 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. | Following S2 standard procedures, where high grade gold intervals are present within a broader zone of mineralization, they will be reported as included intervals. |
| | The assumptions used for any reporting of metal equivalent values should be clearly stated. | No metal equivalent values are used for reporting exploration results. |
| **Relationship between mineralisation widths and intercept lengths** | These relationships are particularly important in the reporting of Exploration Results.<br>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.<br>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known'). | The geometries of controls to gold mineralisation at Pluto are currently unknown. |
| **Diagram** | 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. | All Figures are contained in the body of the text. |
| **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. | The accompanying document is conserved to represent a balanced report with grades and/or widths reported in a consistent manner. |
| **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. | No other exploration data collected to date is considered material or meaningful at this stage. |
| **Further work** | The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).<br>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive | A detailed review of the results of the current drilling is to be undertaken before any future exploration work is planned. |