Significant new mineralisation intersected at Akelikongo nickel-copper project

Mineralisation intersected in AKD022 provides key focus for ongoing exploration activity under the Rio Tinto JV

Highlights

- **New disseminated and massive magmatic nickel-copper sulphide mineralisation intersected in five diamond holes at Akelikongo. Down plunge of AKD022 the mineralisation is open.**

- Nine diamond holes for 3,564.1m drilled project-wide under the Rio Tinto JV to date. In addition, extensive rock chip sampling, mapping and ground gravity surveying has been completed. All work is designed to confirm the fertility of extensive mafic to ultramafic intrusions to host nickel-copper magmatic sulphides such as those already discovered by Sipa at Akelikongo.

- Notable drilling results include:
  - **16.4m @ 0.44% Ni, 0.12% Cu and 0.03% Co from 274.3m in AKD020**. The intercept in AKD020 lies ~200m east of the discovery zone drilled by Sipa in 2015-2017.
  - 9m zone of disseminated mineralisation in AKD021 (assays awaited) and 29.55m (down-hole width) of disseminated and massive sulphide mineralisation in AKD022 (assays awaited).
  - AKD019 returned a mixed oxide and sulphide intercept of 10m @ 0.49% Ni and 0.16% Cu from 29m (oxide) and 10m @ 0.43% Ni and 0.13% Cu from 39-49m and 4m @ 0.37% and 0.12% Cu from 53m and extends the near surface mineralised zone further east.

- Drilling continues at the Lawiye Adul target, as part of the regional geochemical characterisation of ultramafic intrusions.

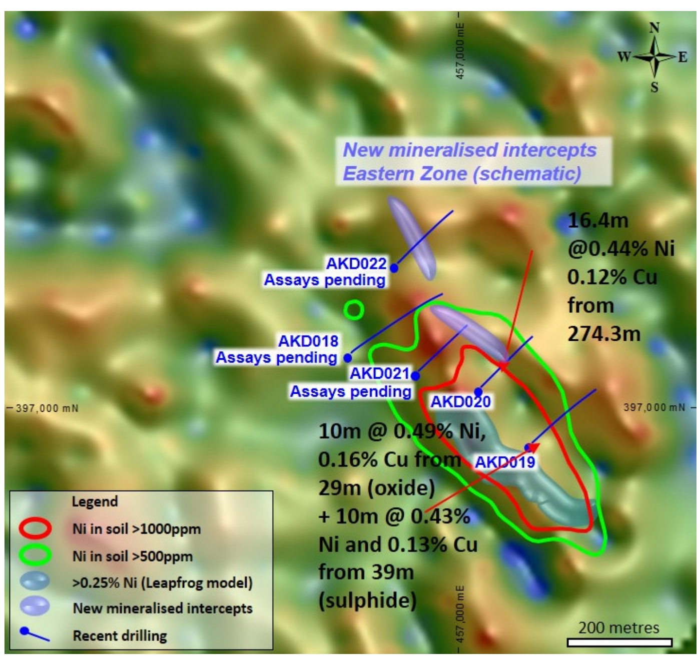


Figure 1. Current drilling at Akelikongo showing results and the new Eastern Mineralised zone.

Sipa Resources Limited (Sipa) is pleased to announce first diamond drilling results from the ongoing exploration program at its Kitgum Pader Nickel-Copper Project in Northern Uganda, a joint venture between Sipa and Rio Tinto Mining & Exploration Limited (Rio Tinto).

The program is being managed by Sipa on behalf of Rio Tinto, which is currently earning a 51% interest in the Project as part of the Landmark Farm-in and JV Agreement with Rio Tinto announced in May 2018 under which Rio Tinto can fund up to US$57 million of exploration expenditure and make US$2 million in cash payments to earn up to a 75% interest the Project.

Since it commenced in August 2018, the program has included diamond drilling, gravity surveying over selected prospects, and soil sampling.

Diamond Drilling:

Nine holes have been drilled to date for a total of 3,564.1m covering the Goma and Lawiye Adul regional targets, with five holes for 1,993.5m completed at the Akelikongo discovery. Drilling at the regional targets intersected ultramafic intrusions as envisaged, however no magmatic sulphide has yet been identified. Integration of the geochemical and litho-geochemical analyses is currently underway order to relate these intrusions to the Akelikongo suite.

Details of the drill-holes completed to date are provided in Table 1 below:

Hole_ID	East	North	RL m	UTM Grid azimuth	Dip	Total Depth	Prospect	Results
LAD001	466956	326924	1023	060	-60	362.7	Lawiye Adul	Received
LAD002	466380	328410	1008	268	-60	317.5	Lawiye Adul	Not assayed
LAD003	466380	328409	1008	060	-60	458.7	Lawiye Adul	Pending
GMD001	464473	342079	917	300	-60	431.7	Goma	Received
AKD018	456790	397096	950	045	-60	446.7	Akelikongo	Pending
AKD019	457135	396917	953	045	-60	356.7	Akelikongo	Received
AKD020	457038	397029	956	045	-65	356.7	Akelikongo	Received
AKD021	456920	397059	954	045	-60	362.7	Akelikongo	Pending
AKD022	456886	397281	949	045	-70	470.7	Akelikongo	Pending

Table 1 Drill hole coordinates, orientations and depths

Akelikongo

A total of five holes for 1993.5m were drilled at Akelikongo, resulting in further nickel and copper sulphide intersections approximately 200m to the east of the outcropping mineralisation drilled by Sipa during 2015-2017.

Disseminated and minor massive sulphides have now been intersected in a number of holes including newly drilled holes AKD020 (results reported in this release), AKD020 and AKD021 (visual logging information) and are interpreted to be the same zone intersected in holes AKD014 and AKD016 drilled previously by Sipa.

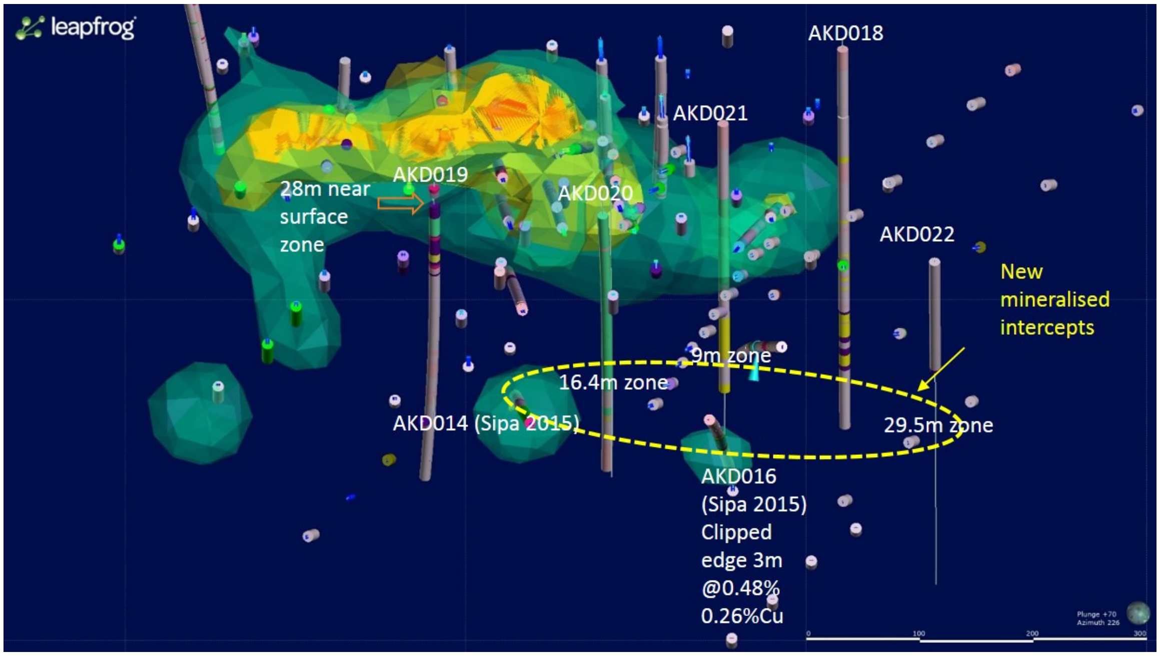


Figure 2: 2017 leapfrog model Oblique view looking south-west. >0.25% Ni in yellow >0.1% Ni in green and location of newly drilled "Eastern Mineralised Zone"

AKD020 intersected a 16.4m wide mineralised zone with blebby and disseminated sulphides ranging from 10% to 30% rock volume with **assay results of 1.3m at 1.52% Ni 0.2% Cu and 0.1% Co within a broader intercept of 16.4m @ 0.44% Ni, 0.12% Cu and 0.03% Co from 274.3m to 290.7m.** This zone corresponds closely with a modelled DHEM plate detected off-hole from diamond hole AKD015 and forms part of the eastern mineralised zone.

AKD021 intersected a 9m wide zone from 300-309m containing blebby to matrix sulphide (pyrrhotite, pentlandite and chalcopyrite) from 20% to 60% (visual estimate) corresponding to a previously defined down-hole EM plate. Assay results awaited.

The success of AKD020 and AKD021 in drill testing modelled DHEM plates and intersecting 16.4m and 9m respectively of strong sulphide mineralisation at the predicted position augurs well for the further application of DHEM as a key targeting tool for further drilling as the mineral system continues down-plunge.

AKD022 is a 100m step-out hole and contains a much wider 29.55m intercept compared with the other intercepts drilled in AKD021 (9m), AKD020 (16.4m), AKD016 (3m) and AKD014 (15m).

AKD022 intersected a 29.55m zone of peridotite from 289.9m with 10 to 20% sulphide (pyrrhotite, pentlandite and chalcopyrite) and 5 mm sharp-walled massive sulphide veins. Assay results are awaited.

AKD019 intersected near-surface mineralisation containing moderately disseminated magmatic sulphides associated with harzburgite, peridotite and norite from 29m to 49m, with an intersection including an oxidized zone from 29-39m of 10m @ 0.49% Ni and 0.16% Cu and 10m of sulphide mineralisation from 39m @ 0.43% Ni and 0.13% Cu. This zone is interpreted to be an eastern extension of the upper outcropping mineralisation previously drilled by Sipa.

AKD018 drilled down the margin of the Akelikongo Ultramafic complex and intersected a small zone of massive sulphide which has been intruded into the gneiss at 397m. Assays are awaited.

Assay results >0.25% Ni where aggregated have less than 1m internal dilution and are reported using a length weighted average technique. Table 2 shows the detail of the intercepts as individual assays.

Down-hole EM is planned for these holes before further targeting is undertaken.

Regional Drilling

Assay results have been received for regional holes LAD001 and GMD 001 at Lawiye Adul and Goma respectively. These holes drilled ultramafic intrusions but did not intersect magmatic sulphide mineralisation. The assays have been collected in order to study the geochemical characteristics of the magmas which can determine whether these regional intrusions have the potential to host magmatic sulphides. This study, in conjunction with further rock chip sampling and analysis, is ongoing.

- **Prospect scale gravity surveying**: A program of detailed ground gravity surveying commenced in mid-August and was completed in early December in order to determine the nature, shape and plunge of intrusions believed to be related to geochemically anomalous soils. The surveys covered four areas of nickel and copper anomalism and known ultramafic intrusions. Areas selected included Goma, Lawiye Adul, Katunguru and Lugwa Jopudung prospects. The results were used to define the location of diamond drill holes to test for the presence of further fertile nickel sulphide-bearing intrusions within the overall land-holding (in addition to the Akelikongo and Akelikongo West intrusions). (Figure 2).

- **Soil sampling:** Assessment of Sipa's extensive >70,000 pXRF soils database indicates that a number of anomalies remain open. In response, additional tenements were acquired and other tenements were rationalised. Soil sampling continues on the new tenements and has been used as an additional targeting tool.

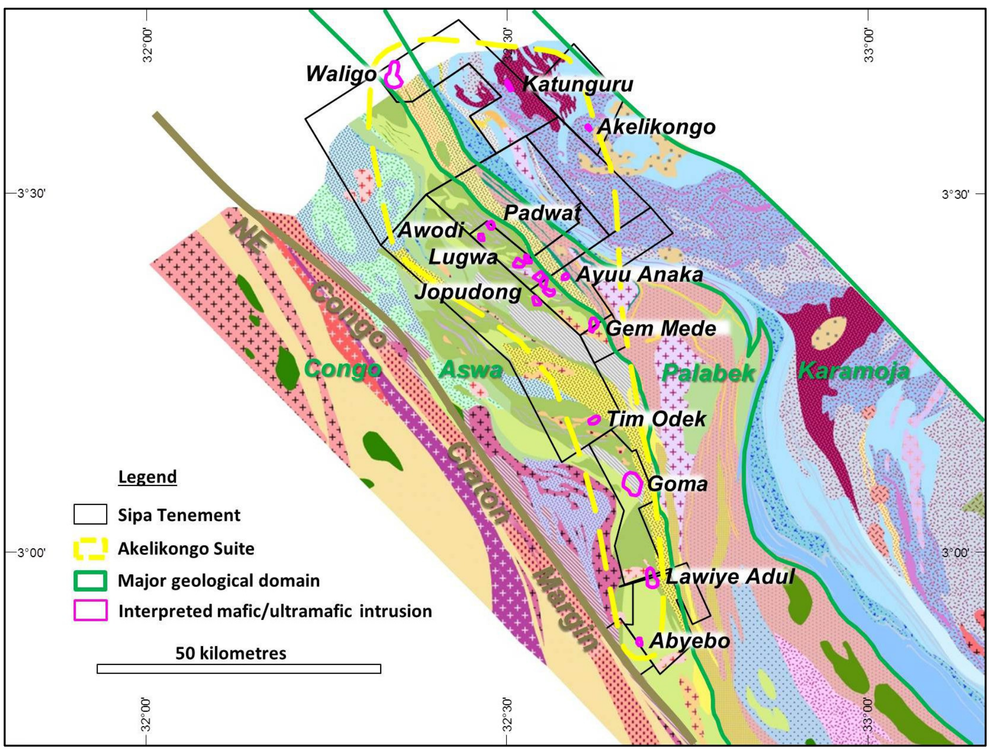


Figure 2: Kitgum Pader Project areas showing nickel-in-soil anomalies and interpreted prospective ultramafic intrusions as named prospects.

Competent Persons Statement

The information in this report that relates to Exploration Results is based on, and fairly represents, information and supporting documentation compiled by Ms Lynda Burnett, who is a Member of The Australasian Institute of Mining and Metallurgy. Ms Burnett is a full-time employee of Sipa Resources Limited. Ms Burnett has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she is undertaking 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'. Ms Burnett consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Table 2: Detailed assay results generally above >0.25% Ni - AKD019 and AKD020

Hole	From	To	Width	Cu %	Ni %	Co%	MgO%	S%
AKD019	29	31	2	0.175	0.523	0.0245	15.25	0.01
AKD019	31	33	2	0.1615	0.502	0.0218	16.4	0.01
AKD019	33	35	2	0.1665	0.489	0.0215	15.05	0.02
AKD019	35	37	2	0.1495	0.471	0.0216	16.45	0.12
AKD019	37	39	2	0.145	0.452	0.0206	16.75	0.37
AKD019	39	40	1	0.135	0.464	0.0211	29.4	2.12
AKD019	40	41	1	0.1065	0.381	0.0193	29.5	1.64
AKD019	41	42	1	0.1545	0.47	0.0209	26.9	2.01
AKD019	42	43	1	0.1025	0.351	0.01735	27	1.37
AKD019	43	44	1	0.256	0.734	0.0286	26	2.94
AKD019	44	45	1	0.1455	0.581	0.0228	27.8	2.33
AKD019	45	46	1	0.116	0.426	0.01905	28.4	1.77
AKD019	46	47	1	0.0921	0.331	0.0175	28.8	1.36
AKD019	47	48	1	0.0864	0.303	0.0166	28.4	1.33
AKD019	48	49	1	0.0942	0.3	0.0161	27	1.17
AKD019	49	50	1	0.0624	0.243	0.01405	26.7	0.97
AKD019	50	51	1	0.0352	0.154	0.01145	24.9	0.53
AKD019	51	52	1	0.0169	0.0775	0.00648	14.35	0.24
AKD019	52	53	1	0.0244	0.117	0.0102	25.3	0.36
AKD019	53	54	1	0.0805	0.25	0.0129	20.9	1.15
AKD019	54	55	1	0.1205	0.391	0.01915	28.8	1.76
AKD019	55	56	1	0.1015	0.341	0.0176	29.1	1.41
AKD019	56	57	1	0.1695	0.484	0.0208	25.4	2.19
AKD019	57	58	1	0.01465	0.0986	0.0106	27.2	0.21
AKD019	58	59	1	0.021	0.12	0.01165	29.7	0.3
AKD019	59	60	1	0.01845	0.113	0.0113	29.1	0.28

Hole	From	To	Width	Cu %	Ni %	Co%	MgO%	S%
AKD019	60	61	1	0.0209	0.109	0.00993	23.1	0.32
AKD019	61	62.9	1.9	0.00695	0.079	0.0106	28.1	0.13
AKD019	62.9	65	2.1	0.00578	0.0764	0.01055	28.5	0.12
AKD019	65	67	2	0.0137	0.0934	0.01145	28.2	0.26
AKD019	67	69	2	0.0311	0.134	0.01235	28.5	0.53
AKD019	69	71	2	0.0137	0.0973	0.01135	27.3	0.27
AKD020	274.3	275.3	1	0.0436	0.253	0.01605	21.4	1.97
AKD020	275.3	276.3	1	0.0506	0.25	0.01715	24	2.32
AKD020	276.3	277.3	1	0.0424	0.222	0.01415	25	1.56
AKD020	277.3	278.3	1	0.0932	0.1885	0.01285	22.7	1.5
AKD020	278.3	279	0.7	0.0528	0.288	0.0202	15.8	3.32
AKD020	279	279.7	0.7	0.0984	0.337	0.0235	18.8	3.89
AKD020	279.7	280.7	1	0.144	0.502	0.0354	15.7	7.24
AKD020	280.7	281.7	1	0.18	0.489	0.0344	20.2	7.06
AKD020	281.7	282.8	1.1	0.16	0.453	0.0324	20.5	6.53
AKD020	282.8	283.9	1.1	0.169	0.753	0.0524	12.45	10.4
AKD020	283.9	285	1.1	0.0341	0.0815	0.00575	2.57	2.44
AKD020	285	286.1	1.1	0.0881	0.298	0.0208	3.06	4.57
AKD020	286.1	287.2	1.1	0.0558	0.14	0.00932	4.02	2.37
AKD020	287.2	288.4	1.2	0.152	0.313	0.0222	3.3	4.12
AKD020	288.4	289.7	1.3	0.203	1.515	0.102	3.11	22.4
AKD020	289.7	290.7	1	0.32	0.598	0.0447	16.3	8.88
AKD020	290.7	291.5	0.8	0.396	0.1665	0.01335	4.95	2.99
AKD020	291.5	293.5	2	0.0224	0.0131	0.0045	4.74	1.23

JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• 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. • Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • 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 (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.	• See Sub sampling techniques (for drilling)
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).	• Diamond drilling consisting of HQ coring from surface then reducing to NQ2 from fresh rock. • Core was oriented using Reflex ActII RD Rapid Descent Orientation
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • 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.	• The recovery was very high, normally 100% • Groundwater was encountered in many holes.

Criteria	JORC Code explanation	Commentary
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. • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. • The total length and percentage of the relevant intersections logged.	• Logging was conducted on all holes using a digital quantitative and qualitative logging system to a level of detail which would support a mineral resource estimation.
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. • 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. • Whether sample sizes are appropriate to the grain size of the material being sampled.	• Drillcore samples were cut in half using a core saw with one half going to the laboratory. The entire sample is crushed and split at the laboratory.
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. • 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. • 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.	• For the samples selected for laboratory analysis multielement assaying is done via a commercial laboratory using Whole rock analysis plus trace elements using Li-borate fusion and four acid digest supertrace analyses . For all samples additional assaying for Au Pt and Pd is by and 30g Fire Assay with ICP finish. S by four acid digest and by LECO. • Lab Standards:every 10m either a duplicate, a standard, or a blank was assayed

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data.	• This is an early drill test into a newly identified prospect. No verification has been completed yet. • Twinned holes are not undertaken • Data entry is checked by Perth Based Data Management Geologist and by Rio Tinto's internal data management systems • Assays have not been adjusted
Location of data points	• 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. • Specification of the grid system used. • Quality and adequacy of topographic control.	• Drill holes and soil and rock points have been located via hand held GPS.
Data spacing and distribution	• Data spacing for reporting of Exploration Results. • 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. • Whether sample compositing has been applied.	• No Mineral Resource or Ore Reserve Estimation has been calculated. Drill hole spacing sufficient for current level of exploration and evaluation.
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. • 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.	• Although this is an early stage drilling program the drilling has been designed to cut at as orthogonal as possible to the mineralised bodies.
Sample security	• The measures taken to ensure sample security.	• Drill samples are sent by truck and accompanied to Entebbe by a Sipa employee with sealed, unique bag tags. From the freight depot they are consigned by air to the laboratory in Perth.

Criteria	JORC Code explanation	Commentary
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• A preliminary review of sampling and assaying and drillhole spacing for JORC resource planning by CSA Global was conducted in 2016. Results of this audit are that a higher grad standard has been added to the lower grade standard for assay QA/QC. Also a more detailed drill spacing has been recommended for JORC resource calculation purposes.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

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. • 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.	• The results reported in this Announcement are on granted Exploration Licences held by Sipa Exploration Uganda Limited, a 100% beneficially owned subsidiary of Sipa Resources Limited. • Rio Tinto Exploration is earning equity into the joint venture by funding exploration. • At this time the tenements are believed to be in good standing. There are no known impediments to obtain a license to operate, other than those set out by statutory requirements which have not yet been applied for.
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• No previous mineral exploration activity has been conducted prior to Sipa.

Criteria	JORC Code explanation	Commentary
Geology	• Deposit type, geological setting and style of mineralisation.	• The Kitgum-Pader Project covers reworked, high grade metamorphic, Archaean and Proterozoic supracrustal rocks heavily overprinted by the Panafrican Neoproterozoic event of between 600 and 700Ma. The tectonostratigraphy includes felsic ortho- and para-gneisses and mafic and ultramafic amphibolites and granulites and is situated on the northeastern margin of the Congo Craton. The geology and tectonic setting is prospective for magmatic Ni, Broken Hill type base metal and orogenic Au deposits
Drillhole 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: ○ easting and northing of the drill hole collar ○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar ○ dip and azimuth of the hole ○ down hole length and interception depth ○ hole length. • 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.	• Reported in Text
Data aggregation methods	• 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. • 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. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	• Assay results >0.25% Ni (with less than 1m internal dilution) for Akelikongo have been reported. Where data has been aggregated a length weighted average technique has been used.

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • 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').	• These widths approximate true width where possible. However due to the pipelike and variable nature of the body some intercepts may not be true width. • The geometry is generally dipping vertically or moderately to the east and plunging shallowly to the north west.
Diagrams	• 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.	• Reported in 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.	• Assay results >0.25% Ni (with less than 1m internal dilution) are reported for Akelikongo. • The results reported are not the full intervals assayed.
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.	• Not applicable
Further work	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• As reported in the text

For more information:
Lynda Burnett
Managing Director
Sipa Resources Limited
+61 (0) 8 9388 1551
info@sipa.com.au

Media Inquiries:
Nicholas Read
Read Corporate
+61 (0) 8 9388 1474
nicholas@readcorporate.com.au

About Sipa

Sipa Resources Limited (ASX: SRI) is an Australian-based exploration company aiming to discover significant new gold-copper and base metal deposits in established and emerging mineral provinces with world-class potential.

In Northern Uganda, the 100%-owned Kitgum-Pader Base Metals Project contains an intrusive-hosted nickel-copper sulphide discovery at Akelikongo, one of the most significant recent nickel sulphide discoveries globally.

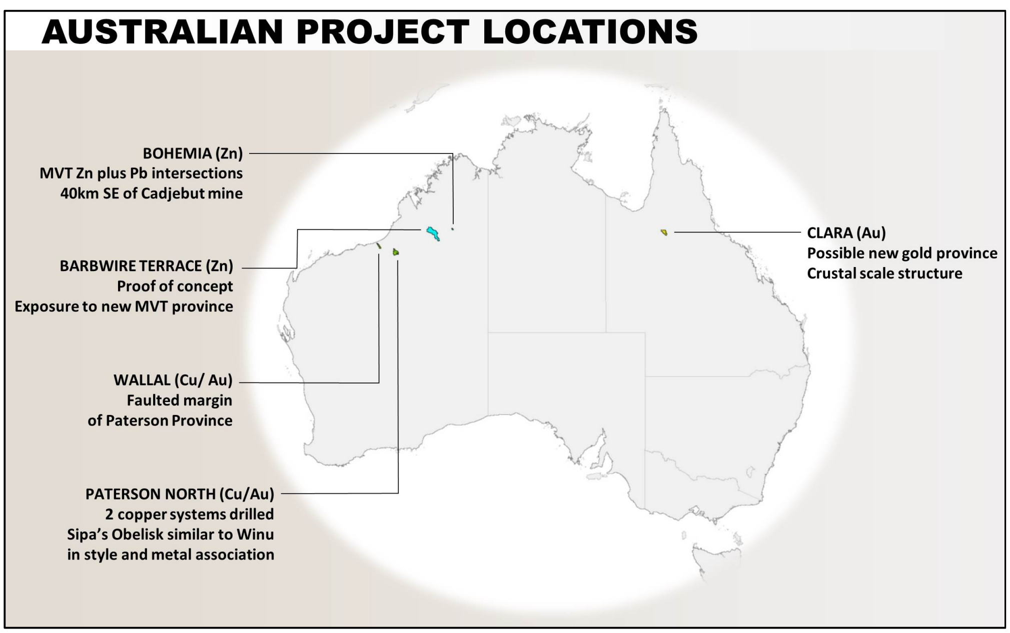
In May 2018 Sipa announced a Landmark Farm-in and JV Agreement with Rio Tinto to underpin accelerated nickel-copper exploration at the Kitgum Pader Base Metals Project in Northern Uganda in which Rio Tinto can fund up to US$57M of exploration expenditure and make US$2M in cash payments to earn up to a 75% interest the project.

The Joint Venture commenced in August 2018 and Sipa is manager of the project for the first 18 months, after which Rio can elect to become manager or continue to have Sipa manage the project.

In Australia, Sipa has an 80% interest in Joint Venture with Ming Gold at the Paterson North Copper Gold Project in the Paterson Province of North West Western Australia, where polymetallic intrusive related mineralisation was intersected at the Obelisk prospect.

The Paterson Province is a globally recognized, strongly endowed and highly prospective mineral belt hosting the plus 25Moz world-class Telfer gold and copper deposits, Magnum and Calibre gold and copper deposits, Nifty copper and Kintyre uranium deposits and the O'Callaghans tungsten deposit.

Sipa also has number of other landholdings in Northern Australia including the newly acquired Barbwire Terrace and Bohemia Zinc projects and the Clara gold project in Northwest Queensland.



Glossary

Chalcopyrite

Chalcopyrite is a copper iron sulphide mineral with the formulae $CuFeS_2$. The principle three sulphide minerals in nickel sulphide deposits are pyrrhotite, pentlandite and chalcopyrite in decreasing order of abundance.

Cumulate

Cumulate rocks are the typical product of precipitation of solid crystals from a fractionating magma chamber. These accumulations typically occur on the floor of the magma chamber. Cumulates are typically found in ultramafic intrusions, in the base of large ultramafic lava tubes in komatiite and magnesium rich basalt flows and also in some granitic intrusions.

Gneiss

Gneiss is a high grade metamorphic rock, meaning that it has been subjected to higher temperatures and pressures than schist. It is formed by the metamorphosis of granite, or sedimentary rock. **Gneiss** displays distinct foliation, representing alternating layers composed of different minerals

MgO content

Method of mafic and ultramafic rock classification, with high MgO ultramafic rocks generally comprising greater than 25% MgO. The higher the MgO content the more nickel the rock can contain in silicate form with modifying factors up to 3000ppm.

Migmatite

Migmatite is a rock that is a mixture of metamorphic rock and igneous rock. It is created when a metamorphic rock such as gneiss partially melts, and then that melt recrystallizes into an igneous rock, creating a mixture of the unmelted metamorphic part with the recrystallized igneous part.

Nickel tenor

How much nickel in percentage terms within the total sulphide of the rock as a percentage of that sulphide. If you have nickel tenor of 6% and you have 50% sulphide in the rock then the grade is 3% nickel

Oikocrysts

Part of the definition of poikilitic texture. Poikilitic texture is a texture in which small, randomly orientated, crystals are enclosed within larger crystals of another mineral. The term is most commonly applied to igneous rock textures. The smaller enclosed crystals are known as chadacrysts, whilst the larger crystals are known as oikocrysts.

Paragneiss

A metamorphic rock formed in the earth's crust from sedimentary rocks (sandstones and argillaceous schists) that recrystallized in the deep zones of the earth's crust

Pentlandite

Pentlandite is an iron-nickel sulphide mineral with the formula, $(Fe,Ni)_9S_8$.

Peridotite

Peridotite is a dense, coarse-grained igneous rock, consisting mostly of the minerals olivine and pyroxene. Peridotite is ultramafic, as the rock contains less than 45% silica.

Pyroxenite

Pyroxenite is an ultramafic igneous rock consisting essentially of minerals of the pyroxene group, such as augite and diopside, hypersthene, bronzite or enstatite. They are classified into clinopyroxenites, orthopyroxenites, and websterites which contain both clino and orthopyroxene.

Pyrrhotite

Pyrrhotite is an iron sulphide mineral with the formula $Fe_{(1-x)}S_{(x = 0 \text{ to } 0.2)}$.

Saprolite

In situ deeply weathered rock usually consisting of a large percentage of clay minerals

Sulphide textures

- Massive

  Solid sulphide 100%

- Semi-massive

  Large blocks and pieces greater than 10mm in diameter of massive sulphide, often chaotic in texture but commonly taking up more than 20% of the rock volume. Stringer sulphides (where sulphides form elongate irregular veins and ribbons) often occur with semi-massive sulphides

- Net textured (matrix)

  Descriptive term to describe the visual appearance of a net with the sulphides forming the net and the other rock forming minerals the matrix, also known as matrix sulphides. Generally 20-50% of rock volume

- Blebby

  Grain size more than about 5mm and resembling droplets

- Disseminated

  Fine to medium grained (0.5 to 3mm) sprinkling of sulphides scattered throughout the ultramafic rock. Coarsening and increasing grade often occurs within the disseminated zone towards the gravitational base of the intrusion at the time of crystallisation. This is generally regarded as indicating gravitational settling of the sulphides as the magma and sulphide solution cool to form solid rock.

Xenomelt

Melt of a foreign rock typically the country rock, through which the hot ultramafic magma intrudes, interacts and partially melts and absorbs.

Ultramafic

Generic term for rocks composed of usually greater than 90% mafic minerals (dark colored, high in magnesium and iron) also have <45% silica. As opposed to mafic rocks which has 45-51% silica. The origin of ultramafic rocks is generally from deep within the earth's mantle.