17 October 2016

ASX Release (ASX code: “FYI”)

Downhole Geophysics Exploration Results Confirm Positive Drilling Program

Perth-based FYI Resources Limited (the “Company” or “FYI”) is pleased to provide a technical review by CSA Global of the downhole Natural Gamma log of the recently completed vertical RZK-01A drill hole on the Sino-Lao potash project, located in the Natan Mining Area (see location map below).

Highlights
- The survey confirms the presence of potash mineralisation.
- Extensive apparent width of mineralisation indicated from 200m dh to 428m dh.
- Multiple zones of elevated Natural Gamma responses indicating potassium-rich mineralogy.

RZK-01A is the first due diligence drill hole by FYI on the Sino-Lao project (see previous ASX release 1/8/2016 for details). The entire drill hole was Natural Gamma logged through HQ steel casing by Aztec Engineering Co., following the completion of the hole.
The gamma sensor in the downhole probe estimates (in counts per second - CPS) the level of Potassium-40, a radioactive isotope of potassium. In potash deposits, elevated CPS indicates the presence of potash, either as carnallitite or sylvinite, as visually confirmed by site geologists whilst logging the core.

**Notable Intercepts**

Of the 228 m of potash-bearing evaporite (seen in the drill core), the downhole probe identified three notable zones of elevated potassium response:

- 203.6 – 205.6 m @ 160 CPS
- 207.6 – 209 m @ 190 CPS; and
- 306 – 320 m @ 140 CPS.

The approximate average background natural gamma ray response of the evaporite sequence below the hanging wall halite is approximately 85 CPS.

**Natural Gamma Logs**

The results for selected sections of the RZK-01A natural gamma downhole logs are shown below (over leaf).

Although the Natural Gamma log is indicative of potash mineralisation, the available data is not sufficient to allow any reasonable estimation of a Mineral Resource in isolation at this stage. FYI is continuing its project due diligence and will work towards a JORC reportable Mineral Resource estimate once it proceeds with a formal joint venture.
Summary
The results of the downhole Natural Gamma survey confirms the extent of the mineralisation of the Sino-Lao potash project and further demonstrate the potential of the project.

The RZK-01A geophysics results adds to FYI’s due diligence and understanding of the project and adds credibility to the strategy of entering a joint venture on the Sino-Lao project.

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Managing Director
Tel: +61 414666178

The information in this report relates to the Exploration Result that has been compiled by Mr Mark Pudovskis BSc, who is an employee of CSA Global Pty Ltd. He is a member of the Australian Institute of Mining and Metallurgy. He has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity to which he 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”. Mark Pudovskis consents to the inclusion in the public release of the matters based on his information in the form and context in which it appears.
**Sino-Lao Project Exploration Result:**  
**JORC Code (2012 Edition) Table 1**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>JORC Code explanation</th>
<th>Commentary</th>
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</thead>
</table>
| **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.  
• 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 (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. | The Exploration Results relate only to downhole Natural Gamma logging of drillhole RZK-01A.  
RZK-01A drillhole was geophysically logged through HQ steel casing by Aztec Engineering Co., following the completion of the hole.  
A Density/Gamma Probe (Trisonde) with Inclination was used measuring Natural Gamma and Inclination. No nuclear sources were available so Density was not measured. The tool was provided by Robertson Geologging.  
Downhole gamma logging is typical of the potash industry and assists in identifying potassium rich zones to aid sampling. The method and instruments adopted are suitable for preliminary identification of potential potash bearing zones. |
| **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.). | The Exploration Results relate only to downhole Natural Gamma logging. The drilling technique discussion is not applicable except to state that due to hole instability the tri-sonde was logged through the drill casing. This has subdued the response of the Natural Gamma in CPS (Counts Per Second). |
| **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 | The Exploration Results relate only to downhole Natural Gamma logging. The entire length of RZK-01A was gamma logged. The drill sampling discussion is not applicable. |
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<thead>
<tr>
<th>Criteria</th>
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<tbody>
<tr>
<td>Loss/gain of fine/coarse material.</td>
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</table>
| **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. | The Exploration Results relate only to downhole Natural Gamma logging. Sample logging techniques are not applicable.  
Downhole Gamma logging is typical of the potash industry and assists in indentifying potassium rich zones to aid sampling. The method adopted is suitable for preliminary field identification of potential potash bearing zones but is not appropriate to supporting any Mineral Resource estimation.  
The entire drillhole was Gamma logged and revealed zones of elevated potassium, indicative of potash mineralisation. |
| **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. | The Exploration Results relate only to downhole Natural Gamma logging. Sub-sampling techniques are not applicable.  
No processing or filtering has been applied to the wireline data. |
| **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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established. | Downhole Gamma logging is typical of the potash industry and assists in indentifying potassium rich zones to aid sampling. The method adopted is suitable for preliminary field identification of potential potash bearing zones but is not appropriate to supporting any mineral Resource estimation.  
Drilling fluid was a tri-salt solution saturated in KCl, MgCl and NaCl. The mixture resulted from a trial and error method with the carnallitite and halite sourced from the Thongmang processing facility.  
The CPS response has been subdued due to logging through the steel rod. The exact impact on the CPS response is unknown.  
No calibration of the tool was required as the gamma counts were in |
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<th>Commentary</th>
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| **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. | The Exploration Results relate only to downhole Natural Gamma logging. Cross reference estimates of %K from the CPS was not completed due to the logging of RZK-01A through the steel casing which has subdued the gamma response.  
Verification of downhole geophysical data by the twinning of holes is not appropriate to potash exploration.  
The raw downhole geophysical data is stored on a local FYI server. |
| **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. | The RZK-01A location was captured by a hand held GPS in WGS84 UTM 48N projection. This method is appropriate for an Exploration Result.  
The depths of the gamma data points were measured electronically off the winch.  
RZK-01A was drilled vertically and the inclination measured from the downhole tri-sonde. The inclination measured revealed a deviation from vertical of approximately less than 2 degrees across the entire 431.5m length of the drillhole which is appropriate for an Exploration Result. There is no survey control confirming the RL however the Project’s terrain is relatively flat, typical of an evaporite basin. |
| **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. | The Exploration Result relates to the downhole Natural Gamma logging. The gamma CPS was collected in real time every 10mm. |
| **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 | The Exploration Result relates to the downhole Natural Gamma logging. Geological structural information is not applicable. |
### Criteria | JORC Code explanation | Commentary
--- | --- | ---
**Sample security** | The measures taken to ensure sample security. | The Exploration Result relates to the downhole Natural Gamma logging. Sample security is not applicable.

**Audits or reviews** | The results of any audits or reviews of sampling techniques and data. | No audit or review of the Exploration Results has been completed.

### 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 Mining Areas – Natan and Thong mang, illustrated in figure 1 (total 76km²) are owned by Yuntianhua. The ownership structure is:
- 72% - Sino Lao Mining Development and Investment Co Ltd (Sino Lao) - site owners and operators.
- Of the remaining 28% equity, Yunnan Geological Mineral Group (YGMG) own 8%, the remaining 20% is owned by six other parties. YGMG was awarded equity based on completing the 2001-2003 technical drill program.

Evidence of the licence of title is the document "An Exploitation and Production Agreement for Potash Mineral in Vientiane Basin, LAO People’s Democratic Republic between The Government of LAO People’s Democratic Republic and Yunnan Sino Lao Mining Development & Investment Co., LTD, People’s Republic China (Sino Lao), dated November 2004”

The Agreement describes a three phase program - Feasibility Study Period (36 months), Construction Period (36 months), Operating Period (24 years) which can be prolonged two times and per time is equal to 10 years under the approval of the Government.

The Agreement has not been independently verified.

There are no known impediments or issues with third parties such as joint ventures, royalties, native title, national parks or environment.
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<tr>
<th>Criteria</th>
<th>JORC Code explanation</th>
<th>Commentary</th>
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<tbody>
<tr>
<td><strong>Exploration done by other parties</strong></td>
<td>• Acknowledgment and appraisal of exploration by other parties.</td>
<td>FYI have signed a memorandum of understating with YTH to undertake due diligence work on the Sino Lao project.</td>
</tr>
</tbody>
</table>

The exploration history is summarised as:

- **2001– 2003: Yuntianhua exploration**
  - Five cored boreholes on Thong mang (logs received for only three boreholes, total 1222.45m)
  - Seven cored boreholes on Natan. (logs received for only six boreholes, total 3235.45m)
  - Detailed geochemical analysis of all evaporite samples and downhole deviation measurements of each borehole. There was no seismic completed.
  - Completed a foreign estimate however it does not meet JORC standards and is therefore not suitable for public release.

- **2011 – 2013: Yuntianhua mine and Pilot plant**
  - 2 x shafts – Primary ventilation and haulage of approximately 2m diameter, secondary auxiliary (less than 2m diameter)
  - Two x drives, one at 143m and a second at 190m. Levels were selected on grade and geology.
  - Two x drives are 3m in height.
  - Trial mining was completed over a 2.5-year period, 2011 - 2013 with approximately 35,000t of K₂O product produced.
  - Shaft capacity is 120,000t/annum, plant capacity 60,000t/annum.

- **2016 – Present: FYI**
  - Eight underground grab samples
  - Two x PSI Drilling core boreholes (adjacent to ZK1) – assays not available at present.
  - Digital capture of historic borehole data into an Access Database
  - Generation of ArcGIS borehole location plans
FYI RESOURCES LTD
Sino Lao Potash Project Exploration Result Table 1

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<thead>
<tr>
<th>Criteria</th>
<th>JORC Code explanation</th>
<th>Commentary</th>
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<tbody>
<tr>
<td>Geology</td>
<td></td>
<td>There is anecdotal evidence of earlier (pre-2000) drilling by Vietnamese companies however no supporting evidence is available.</td>
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<td></td>
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<td>The Project is a potash (carnallitite-dominant) deposit located in the Sakon Nakhon Basin. As described by Warren, J. (2006). Evaporites: sediments, resources and hydrocarbons. Berlin, Germany: Springer. “Potash in the halite-dominated Cretaceous Maha Sarakham Formation is preserved within two basins, the northern Sakon Nakhon Basin which extends in to Laos and the southern Khorat Basin”. As further asserted by Warren, J. (2006). Evaporites: sediments, resources and hydrocarbons. Berlin, Germany: Springer. “The only well studied and significant potash-rich zones are in the upper section of the Lower Salt Member along the western margin of the Khorat Plateau. The potash interval is dominated by carnallitite (up to 20-30m thick), which forms a widespread stratiform unit along the western margins of both the Khort and Sakon Nakhon basins. It is locally capped by lesser sylvinite (&lt;6m) and covered by a bed of colour banded red and grey halite (up to 6m thick). The potash stratigraphy is in turn overlain by the Lower Clastic Member.” The stratigraphy of the Lower Salt Member is summarised after Warren, J. (2006):</td>
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<tr>
<td></td>
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<td>• Upper-most colour banded Halite (0-6m)</td>
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<td>• Sylvinite zone (0-6m) - Not always present and the contact is transitional to the underlying carnallitite</td>
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<td>• Carnallitite zone (0 up to 15-30m)</td>
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<td></td>
<td>• Lower zone of massive to bedded halite with trace carnallitite (50-300m)</td>
</tr>
<tr>
<td>Drill hole</td>
<td>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:</td>
<td>The Exploration Result relates to the downhole Natural Gamma logging of drillhole RZK-01A, located on the Natan Mining Area of the Sino-Lao project.</td>
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<tr>
<td>Information</td>
<td>o easting and northing of the drill hole collar</td>
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<tr>
<td></td>
<td>o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</td>
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<tr>
<td></td>
<td>o dip and azimuth of the hole</td>
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<td></td>
<td>o down hole length and interception depth</td>
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<tr>
<td></td>
<td>o hole length.</td>
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<thead>
<tr>
<th>Drillhole</th>
<th>Longitude*</th>
<th>Latitude*</th>
<th>RL</th>
<th>Depth</th>
<th>Azimuth</th>
<th>Dip</th>
</tr>
</thead>
<tbody>
<tr>
<td>RZK-01A</td>
<td>102.8289</td>
<td>18.2036</td>
<td>NA</td>
<td>431.5</td>
<td>0</td>
<td>-90</td>
</tr>
</tbody>
</table>

*The datum is WGS 84.
### Criteria | JORC Code explanation | Commentary
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**Data aggregation methods**
- 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.
- The Exploration Result relates to the downhole Natural Gamma logging of drillhole RZK-01A. The Natural Gamma data was collected in CPS units (Counts Per Second) and has not been aggregated. Raw data is displayed.

**Relationship between mineralisation widths and intercept lengths**
- These relationships are particularly important in the reporting of Exploration Results.
- The Exploration Result relates to the downhole Natural Gamma logging of drillhole RZK-01A. The relationship between the thicknesses of the interpreted potash from the elevated Gamma response and the true widths is not known. Analytical work on the core will enable this relationship to be discussed.

**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.
- A project location plan illustrating the location of drillhole RZK-01A is included below in figures 1 and is included within the body of ASX press release. Select representative sections of the RZK-01A Natural Gamma downhole log are included as figure 2 and within the body of ASX press release.

**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 Exploration Results are reported as Counts Per Second (CPS units) from the downhole Natural Gamma source.
- Significant potash intercepts have been interpreted from the Natural Gamma log:
  - 203.6m – 205.6m @ 160 CPS
  - 207.6m – 209m @ 190 CPS; and
  - 306m – 320m @ 140 CPS.
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<tr>
<td>Other substantive exploration data</td>
<td>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.</td>
<td>There has been no additional meaningful exploration completed with tangible results available by FYI Resources which adds support to the Exploration Result.</td>
</tr>
<tr>
<td>Further work</td>
<td>The nature and scale of planned further work (e.g. 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.</td>
<td>Significant in-ground work comprising 2D (and potentially 3D) seismic data, drilling and downhole wireline logging is required to establish any future JORC compliant Mineral Resources. Prior to undertaking additional drilling, it is recommended to complete a 2D seismic program in order to evaluate the sub-surface geology, identify areas of structural discontinuity (specifically salt diapers and their margins which are prone to host sylvinites after carnallites) to enable appropriate exploration borehole planning. Approximately 8 – 10 boreholes, spaced 2km apart over each Mining Area. On the assumption of an average drill depth of 400m, a total meterage of 3200m – 4000m on each Mining Area will be required. This volume of drilling will be sufficient to define a Mineral Resources assuming all related JORC Table 1 guidelines are adequately adhered to. Wireline logging is integral to any potash exploration program whether to aid geological logging/interpretation or integrated with seismic data to enhance robust basin interpretation. VSP (Velocity) survey and logs (sonic and density) are required to generate a synthetic seismogram with density and Gamma logs providing a means of assessing mineralogy. Each drill hole is recommended to be logged from the end of hole depth to surface casing with geophysical wireline tools. The data collected will provide detailed downhole information that can be used to cross-reference lithology, mineralogy, and geochemical assay data. Gamma and density should be considered mandatory. Neutron is useful for assisting identifying the hygroscopic evaporites.</td>
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<td>Criteria</td>
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<td>To progress to a JORC Mineral Resource classification the following guideline is suggested:</td>
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<td>• Inferred Resource: Area within 2 km of a drill hole with geochemical analyses with 2D seisms but without 3D seismic coverage.</td>
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<td>• Indicated Resource: Area within 2 km of a drill hole with geochemical analyses with 3D seismic coverage.</td>
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<td>• Measured Resource: Area within 2 km of a drill hole with geochemical analyses displaying strong spatial analysis and with 3D seismic coverage.</td>
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</table>
Figure 1: Project location plan illustrating RZK-01A drillhole
Figure 2: Selected sections of the RZK-01A Natural Gamma downhole logs

- Section of Natural Gamma log results for RZK-01 (196m - 220m)
- Section of Natural Gamma log results for RZK-01 (302m - 328m)