

11<sup>th</sup> April 2017

ASX via Electronic Lodgement

## Banio Drilling Update

- **BA001 ended 363.7m depth**
- **Carnallite (potash) mineralisation intersected**
- **Drill rig moved and new hole commencing pre-Easter**

Plymouth Minerals Limited (ASX:PLH) (Plymouth or the Company) wishes to provide the following update on drilling at its 100% owned Banio Potash Project in Gabon. Potash mineralisation has been intersected in its maiden drill hole at Banio. Structural deformation intersected in BA001 has resulted in the hole being stopped early and repositioned to be redrilled. The new hole will commence this week.

Drill hole BA001 was collared approximately 1.5km south east of historical hole BATC-01 which intersected high-grade sylvinite and broad zones of carnallite mineralisation. Hole BA001 appears to have drilled down a limb of a fold zone and carnallite (potash) mineralisation was observed at a high angle in core (Figure 1). BA001 reached a depth of 363.75m prior to being terminated and the rig moved away from the structural corridor and positioned for BA002 closer to BATC-1.



FIGURE 1: STEEPLY DIPPING, RED POTASH (CARNALLITE) MINERALISATION IN BA001

The base of Anhydrite (top of salt) was intersected in BA001 at 309m downhole (estimated 290m downhole prior to drilling). Steeply dipping potash mineralisation indicates sediment beds to be the result of structural deformation in a known NNW-SSE trending 'Hinge Zone' associated with the structural corridor identified in Banio. This Hinge Zone is documented to extend along strike south into the Republic of Congo and is associated with increased permeability, fluid flows and sylvinite formation in other potash deposits in the basin. Plymouth had specifically targeted this higher risk, higher reward ribbon within the +600km<sup>2</sup>

prospective potash basin inside the +1200km<sup>2</sup> Banio tenure. Interpretation shows that BA001 has been drilled sub-parallel to the limb of folded sediments within this zone.

Based on this information and seismic data the rig will now be moved to a new site closer to BATC-1 which is an area of known sylvinite mineralisation. Drilling BA002 is planned to commence prior to Easter and take approximately 3 weeks. Samples from BA001 will be dispatched for assay and downhole geophysical logging will be conducted on BA001.

Plymouth is pleased to intersect potash mineralisation as expected but has chosen to redrill the hole away from the structural corridor associated with deformation to increase ability to use in any possible resource calculations.

Drill hole details;

BA001 Collar UTM 32M , 727,893mE, 9,585,295mS -90 dip, total depth 363.75m

ENDS.

For more information, visit [www.plymouthminerals.com](http://www.plymouthminerals.com)

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### **About Plymouth Minerals' Lithium Project**

Plymouth has partnered with the large Spanish company Sacyr and its wholly owned subsidiary Valoriza Minería in an earn-in JV over a large, lithium-tin project (San Jose) in central Spain. Plymouth can earn up to 75% of San Jose by completing a Feasibility Study within 4 years (approximately A\$6 million in spend). Plymouth also retains an 80% interest in the Morille tungsten project in Spain which was extensively explored by Plymouth in 2013-2015.

San Jose is a highly advanced lithium project which is hosted in lithium-mica. A feasibility study completed in 1991 defined an open pit mining operation and a process flow sheet which produced lithium carbonate through acid-leach processing. This historical drilling, mining and processing study work highlights the differences with San Jose and many other hard rock style lithium deposits and highlights the advantages enjoyed by San Jose.

### **About Plymouth Minerals' Potash Projects**

Plymouth owns 100% of the Banio and Mamana Potash Projects, which are drill proven, high-grade, shallow potash deposits that are favourably located on the coast of Gabon and on major transport river ways (barge) with direct access to export ports. Banio has a multi-billion tonne Exploration Target of carnallite and sylvanite based on historical seismic and drilling data. Plymouth intends to drill test this Exploration Target.

### **Competent Persons Statement**

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on the information compiled or reviewed by Mr Adrian Byass, B.Sc Hons (Geol), B.Econ, FSEG, MAIG and an employee of Plymouth Minerals Limited. Mr Byass has sufficient experience 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 as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves. Mr Byass consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

### **Disclaimer**

Forward-looking statements are statements that are not historical facts. Words such as "expect(s)", "feel(s)", "believe(s)", "will", "may", "anticipate(s)" and similar expressions are intended to identify forward-looking statements. These statements include, but are not limited to statements regarding future production, resources or reserves and exploration results. All of such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the Company, that could cause actual results to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include, but are not limited to: (i) those relating to the interpretation of drill results, the geology, grade and continuity of mineral deposits and conclusions of economic evaluations, (ii) risks relating to possible variations in reserves, grade, planned mining dilution and ore loss, or recovery rates and changes in project parameters as plans continue to be refined, (iii) the potential for delays in exploration or development activities or the completion of feasibility studies, (iv) risks related to commodity price and foreign exchange rate fluctuations, (v) risks related to failure to obtain adequate financing on a timely basis and on acceptable terms or delays in obtaining governmental approvals or in the completion of development or construction activities, and (vi) other risks and uncertainties related to the Company's prospects, properties and business strategy. Our audience is cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof, and we do not undertake any obligation to revise and disseminate forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events.

Criteria	JORC Code explanation	Commentary
Sampling techniques	<p><i>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.</i></p> <p><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></p>	<p>No sampling until the salt sequence, then half core of PQ and HQ sizes taken at every potash-bearing sequence of more than 15 cm. The sequence with a length superior at 1m were split into different samples.</p>
	<p><i>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.</i></p>	<p>All potash-bearing sequence more than 15 cm length were cut on site using a core-saw, and sent to ALS Laboratory in Seville, Spain for assay. Samples were crushed, dried, and pulverised to produce a representative sub-sample for analysis. The following elements are included in the analysis: K, Mg, Fe, Cl, detrital and impurities as per standard industry practice</p>
Drilling techniques	<p><i>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).</i></p>	<p>Mud Rotation drilling using a 8.75 inch tricone bit for the first 100m then a 7 Inch tricone bit until the salt sequence. Diamond core drilling using standard tube diamond drilling of PQ diameter. The core is marked on the rig site.</p>
Drill sample recovery	<p><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></p>	<p>For diamond, sample recovery was measured and recorded onto a logging sheet.</p>
	<p><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></p>	<p>Diamond core had mainly a good recovery, otherwise the mud was adjust during the drilling to fit the recovery. All cores were checked and measured by a geologist at the rig and rod counts were conducted by drillers.</p>

	<p><i>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.</i></p>	<p>No relationship between sample recovery and grade has been established.</p>
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<p><i>Logging</i></p>	<p><i>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.</i></p>	<p>Core samples have been geologically and geotechnically logged to a level of detail to support a Mineral Resource estimation.</p>
	<p><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></p>	<p>The logging completed until the salt sequence is qualitative. A small sample from each one metre sample has been kept in a plastic chip tray and photographed. The diamond logging is both qualitative and semi-quantitative in nature. All drill core was clean and photographed before the cutting.</p>
	<p><i>The total length and percentage of the relevant intersections logged.</i></p>	<p>All drill holes have been logged in full.</p>
<p><i>Sub-sampling techniques and sample preparation</i></p>	<p><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></p>	<p>All core samples were half-core and were cut with a core saw.</p>
	<p><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></p>	<p>The chips were taken directly out of the drilling mix with the mud. No cleaning has been done.</p>
<p><i>Sub-sampling techniques and sample preparation</i></p>	<p><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></p>	<p>standard industry practice</p>
	<p><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></p>	<p>Internationally certified standards, blanks and laboratory cross checking are implemented.</p>
	<p><i>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.</i></p>	<p>standard industry practice</p>
	<p><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></p>	<p>The sample sizes are considered to be appropriate to correctly represent the sought after mineralisation style.</p>

Quality of assay data and laboratory tests	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	standard industry practice
	<i>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.</i>	Two separately sourced, internationally certified standards were incorporated into the assay batches. Results were within quoted variance ranges.
	<i>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.</i>	15% of certified standards and blank samples were randomly added to the samples. All samples have returned results within an acceptable range.
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	Laboratory results have been reviewed by Plymouth Geologists in both Gabon and Australia.
	<i>The use of twinned holes.</i>	No twinning of holes was conducted.
Verification of sampling and assaying	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	Primary logging data was entered into an Excel spreadsheet and stored in an Access database. Drill chips are stored in chip trays and photographed for record.
	<i>Discuss any adjustment to assay data.</i>	There are no known adjustments made to the assay data.
Location of data points	<i>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.</i>	Drill hole collar locations have been recorded using a Garmin hand held GPS which has an accuracy of <8m.
	<i>Specification of the grid system used.</i>	WGS 84 / Gabon TM
	<i>Quality and adequacy of topographic control.</i>	Topographic information has been sourced from a publically available database

<i>Data spacing and distribution</i>	<i>Data spacing for reporting of Exploration Results.</i>	The completed drill holes have not been drilled in a grid pattern and thus have irregular spacing.
	<i>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.</i>	The data spacing and distribution is not sufficient to establish a degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedures.
	<i>Whether sample compositing has been applied.</i>	No sample compositing has been applied.
<i>Orientation of data in relation to geological structure</i>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	The vertical orientation of the drilling is approximately perpendicular to the tabular mineralisation and therefore should not be biased.
	<i>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.</i>	There are no known biases caused by the orientation of the drill holes.
<i>Sample security</i>	<i>The measures taken to ensure sample security.</i>	Samples have been overseen by Plymouth personnel from the drill rig to storage on site, to freight to ALS Labs. Whilst in storage, samples are kept in a locked building.
<i>Audits or reviews</i>	<i>The results of any audits or reviews of sampling techniques and data.</i>	No audits or reviews have been carried out at this time.

<b>Criteria</b>	<b>JORC Code explanation</b>	<b>Commentary</b>
<i>Mineral tenement and land tenure status</i>	<p><i>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.</i></p> <p><i>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.</i></p>	The Banio Project is located 450km south of Libreville in Gabon. The Banio Project is held within Investigation Permit 100% owned by Plymouth Minerals. The project is located at the inland 5km buffer zone limit from the Marine National Park.

<p><i>Exploration done by other parties</i></p>	<p><i>Acknowledgment and appraisal of exploration by other parties.</i></p>	<p>Banio was historically drilled for oil and gas exploration in the 1980s with 2D seismic by Elf Gabon. During the drilling broad zones of "potash salts" were described.</p>
<p><i>Geology</i></p>	<p><i>Deposit type, geological setting and style of mineralisation.</i></p>	<p>The potash-bearing beds were formed through evaporation of sea water in ancient inland oceans. They occurs between salt-bearing evaporite units. The Banio deposit is part of the Congo Basin which has a tabular flat potash "Canadian style".</p>
<p><i>Drill hole Information</i></p>	<p><i>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:</i></p> <ul style="list-style-type: none"> <li><i>o easting and northing of the drill hole collar</i></li> <li><i>o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li><i>o dip and azimuth of the hole</i></li> <li><i>o down hole length and interception depth</i></li> <li><i>o hole length.</i></li> </ul>	<p>Refer to Table in text.</p>

<b>Criteria</b>	<b>JORC Code explanation</b>	<b>Commentary</b>
<p><i>Data aggregation methods</i></p>	<p><i>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.</i></p> <p><i>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.</i></p>	<p>standard industry practices</p>

	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	
<i>Relationship between mineralisation widths and intercept lengths</i>	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p> <p><i>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').</i></p>	Drill holes are vertical which should intercept close to perpendicular the tabular mineralisation giving a true thickness of the mineralisation.
<i>Diagrams</i>	<i>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.</i>	Refer to Figures in text.
<i>Balanced reporting</i>	<i>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.</i>	All results have been reported.
<i>Other substantive exploration data</i>	<i>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.</i>	extensive seismic survey data and oil exploration drilling.
<i>Further work</i>	<p><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></p> <p><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></p>	Mud Rotation drilling is ongoing.