

3 November 2016

ASX via Electronic Lodgement

## **Extensive Potash Mineralisation Confirmed at Banio**

### **Acquisition of additional high resolution historical data complete**

#### **Highlights:**

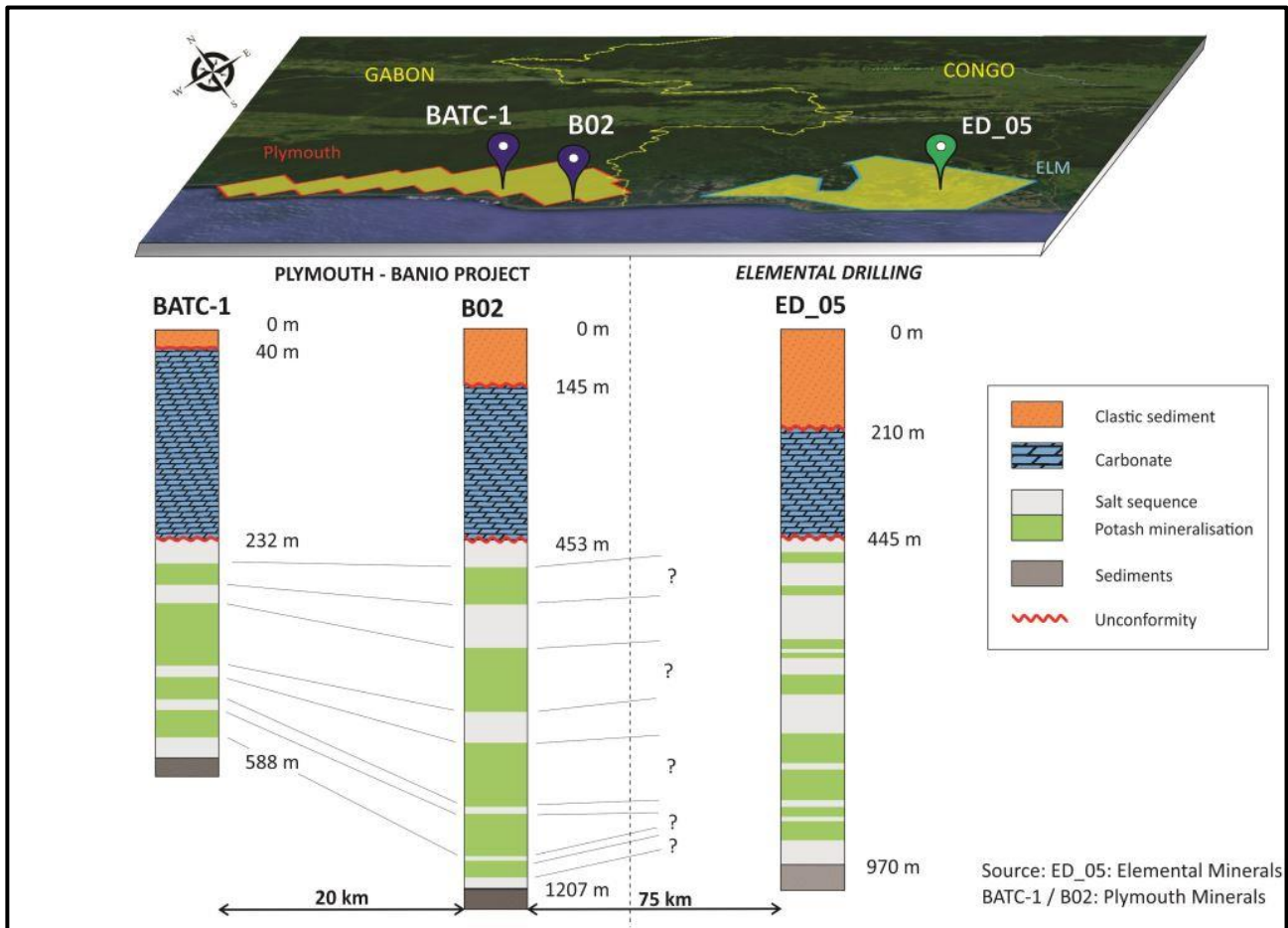
- **Additional high quality historical drillhole and seismic data acquired (includes enhanced gamma BATC-1)**
- **Potential high-grade shallow potash (sylvite) (within 270m depth) identified and potash seams potentially extend over more than 20km of strike in tenure**
- **All drillholes in Project provide evidence of substantial potash mineralisation**
- **Correlation with other drilling +70km to south highlights continuity of potash mineralisation within the Congo Basin**
- **Exploration Target being generated – due in coming weeks**
- **Drilling contract signed**

Plymouth Minerals Limited (ASX: **PLH**) (“**Plymouth**” or the “Company”) is pleased to announce that, as part of its ongoing research into historical exploration activities, the drilling results of BATC-1 and five other oil exploration wells (within Banio Project area) have been acquired.

The initial interpretation of this recently acquired historical drilling data has identified the shallowest salt sequence identified within the Banio Project. Potash mineralisation is interbedded within the salt sequence of the Congo Basin (Figure 1) and within the Banio Project. Salt commences from depths of as shallow as 240m below surface with potash identified from 270m below surface. Plymouth is very pleased that based on this newly acquired data, a high probability of a repeat style of potash mineralisation as seen elsewhere in the Congo Basin to the south also exists in Banio. There is a high degree of correlation over a 100km strike in the Basin.

This additional, newly acquired information was obtained over the last week and is highly important to the ongoing work at Banio and will guide the final planning of drilling locations and depths. Plymouth announced a drilling contract had been signed and the drill rigs are being mobilised to Gabon to test these targets (ASX release dated 4 October 2016).

Importantly, within the Banio Project tenement, all historical holes have provided evidence of extensive potash mineralisation.



**FIGURE 1: SUMMARY STRATIGRAPHIC COLUMNS FOR DRILLING WITHIN BANIO PROJECT AND ALONG STRIKE FROM ELEMENTAL MINERALS (ASX.ELM) PROJECT. NOTE THE HIGH DEGREE OF CORRELATION BETWEEN DEPTHS OF OVERLYING SEDIMENTS, CARBONATES AND POTASH-BEARING SALT SEQUENCES.**

It is significant that historical mining for potash in the Congo Basin targeted layers of high grade sylvite close to surface (e.g. Holle Potash Mine) and large, high-grade resources have been defined relatively close to the surface by targeting this style of mineralisation (ASX Elemental Minerals Limited, Dougou Deposit and Extension Target). Plymouth is extremely pleased that, based on this data, a high probability of a repeat of this style of mineralisation exists at Banio (BATC-1, B02).

The inherent potential for high-grade, shallow sylvite and underlying, thick, sylvite-carnallite styles of mineralisation within Banio (e.g. as evidenced at ASX Elemental Minerals' Dougou and Kola deposits), allows the possibility to consider various deposit and exploitation methods during exploration including conventional mechanised room and pillar mining or in-situ-leach (ISL) exploitation.

This, and other datasets acquired, complement and improve existing, recently acquired data such as seismic and limited downhole geophysics for holes within or immediately adjacent to the Banio Project tenure. Data have now been acquired for holes [BO-1, 2, 3, 4, 5, BATC-1] as well as a wide area covered by 2D seismic surveys (Figure 1).

Managing Director, Dr Eric Lilford commented, “The acquisition of this high quality historical drilling data together with further detail on existing data, has substantially increased the prospective mineralised footprint of our Banio Potash Project and provided a number of outstanding near surface targets.”

“As a precursor to drilling this recently acquired historical data will be interpreted by an industry leading independent party to provide a Potash Exploration Target for the Banio Potash Project over the coming weeks.”

### Overview & High Quality Historical Drilling Data Acquired

The Banio Potash Project (see Figure 2) is a drill proven (historical), high-grade, shallow potash deposit that is favourably located in the Congo Basin, on the coast of Gabon (see Figure 1), and located on major transport river ways (barge) with direct short distance access to export ports. The Congo Basin, which extends into Gabon, is a world-class potash-bearing sedimentary system with past producing mines and projects undergoing feasibility studies. It is well positioned geographically for export access and in relatively short shipping distance to Brazil, being the world’s largest seaborne consumer of potash.

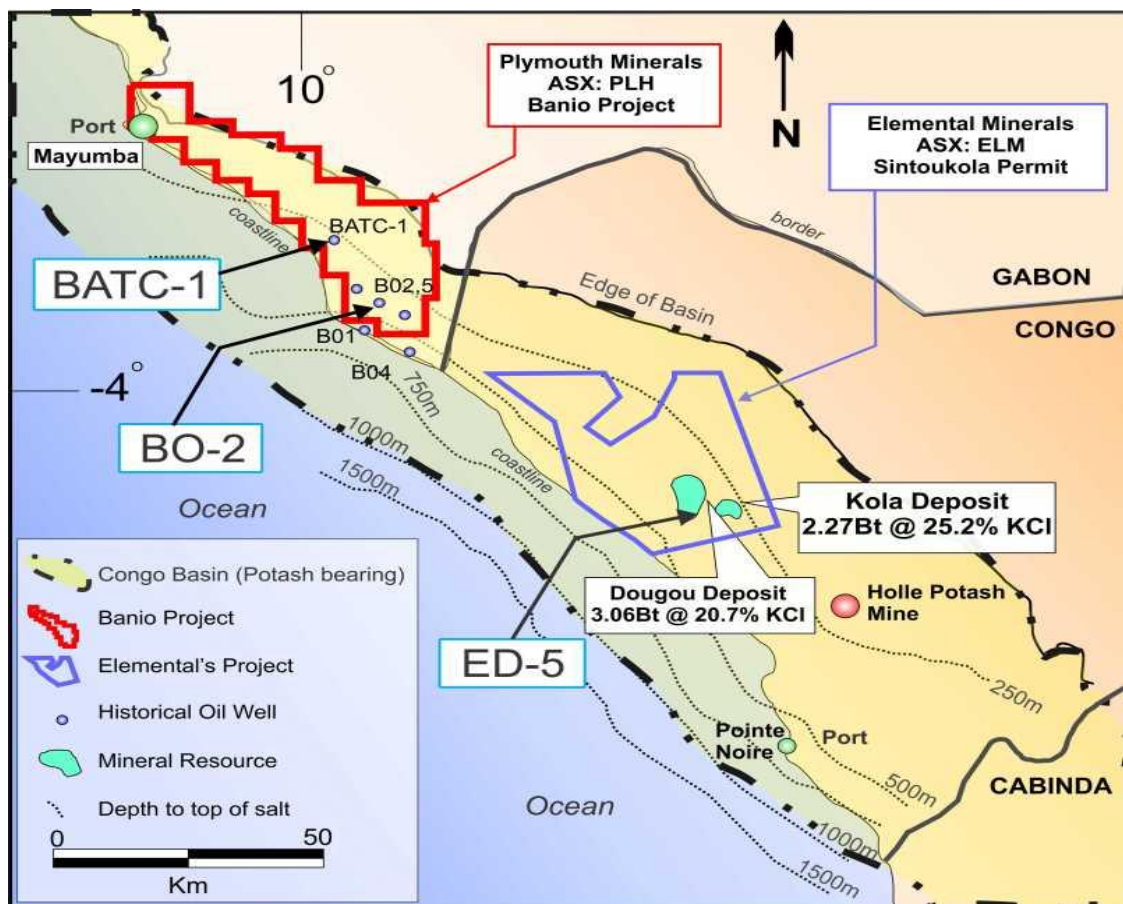


FIGURE 2: POTASH-BEARING CONGO BASIN EXTENTS, PLYMOUTH TENURE AND DRILL HOLE LOCATIONS WITHIN BANIO AND FOR COMPARISON IN FIGURE 1 CROSS SECTION (ED-5).

Plymouth has recently acquired historical drilling data for historical hole BATC-1 (see Figure 1 and 2). This, and other datasets acquired, complement and improve existing, recently acquired data such as seismic and limited downhole geophysics for holes within or immediately adjacent to the Banio Project tenure. Data has now been acquired for holes BO-1, 2, 3, 4, 5 and BATC-1 as well as data from a wide

area covered by 2D seismic surveys (Figure 2). Importantly, within the Banio Project tenement, all historical holes have provided evidence of substantial potash mineralisation.

This new data has highlighted significant downhole geophysical gamma responses which are interpreted to be derived from sylvite mineralisation (supported by XRD sampling, geological logging and seismic data illustrations of sedimentary continuity).

### **Exploration Target Imminent**

Through the use of this recently acquired high quality historical drilling data (which continues to be interpreted) in conjunction with the recently acquired seismic data, Plymouth believes there are strong grounds to support its interpretation of wide-spread high-grade potash mineralisation, close to surface and over large areas.

As a precursor to drilling, this recently acquired historical data will be interpreted by an industry leading independent party to provide a Potash Exploration Target for the Banio Potash Project over the coming weeks.

### **Drilling**

This additional, newly acquired information is highly important to the ongoing work at Banio and will affect the final planning of drilling locations and depths. Plymouth announced a drilling contract had been signed and the drill rigs are being mobilised to Gabon to test these targets (ASX release dated 4 October 2016). Plymouth will provide further updates when the rigs arrives in Gabon (expected late 2016).

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### Competent Persons Statement

The information in this report that relates to Exploration Results, Exploration Targets, 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.

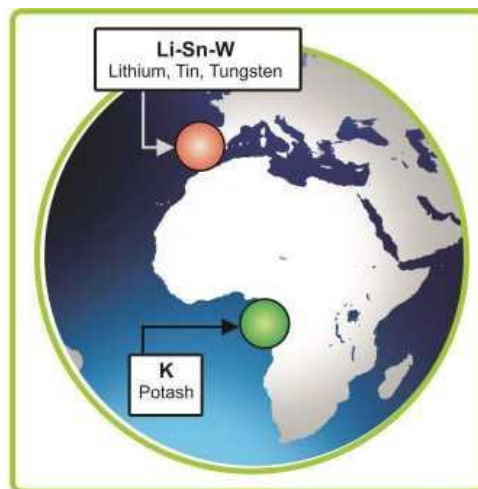
### About Plymouth Minerals Potash Projects

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.

### 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. Plymouth retains an 80% interest in the Morille tungsten project in Spain which was extensively explored by Plymouth in 2013-2015.

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



## APPENDIX 1: Table of Collar Coordinates

Hole	Easting	Northing	RL	Depth	Azimuth	Dip	Company
B01	732,561	9,572,093	50	2,800	0	-90	ELF (Gabon) Petroleum
B02	733,155	9,575,354	50	2,477	0	-90	ELF (Gabon) Petroleum
B03	735,996	9,569,934	50	1,984	0	-90	ELF (Gabon) Petroleum
B04	738,753	9,565,045	50	1,843	0	-90	ELF (Gabon) Petroleum
B05	734,872	9,571,678	50	1,853	0	-90	ELF (Gabon) Petroleum
BATC-1	725,630	9,592,325	50	903	0	-90	ELF (Gabon) Petroleum

## Banio Drill Results

Hole	From m	Interval m	Comments
B01	580	595	Potash/Mg salts logged in the Loeme Formation.
B02	528.45	489	Potash salts logged, selected samples reported up to 48% Sylvite & 80% total potash salts
BATC-1	250	385	Seismic interpretation of salt dome

## B02 sampling

Information stated below is all that we have available and are aware of from previous operators. Selected spot samples were analysed utilising XRD ("XRay Diffraction methods"). We are unaware of the intervals in which the samples were taken.

Sample Depth m	Anhydrite %	Halite %	Carnallite %	Sylvite %	Hematite %	Insoluble %
457		100				0
461		96		1.5		1.8
465	X	99				0.6
466	X	100				0
469	24	76				0
470	3	95	0.5	X		1.5
528		9	65	15	10	0.8

536		11	<b>30</b>	<b>45</b>	11	2.7
542		10	<b>25</b>	<b>48</b>	12	2.6
707		54	<b>11</b>	<b>28</b>	5	0
718		100				0
723	X	95	2	X		2.8
725	X	99				0.4
734	X	99				0.8
738		1	<b>78</b>	4	12	2.7
1008	X	97		1		1.7
1017		16	<b>40</b>	<b>32</b>	9	2.5
1023		92				6.3
1025	1	95				3.4
1026		97				2.8
1033		97				2.3
1040		35	<b>50</b>	<b>12</b>		25

**APPENDIX 2:  
Checklist of Assessment and Reporting Criteria  
JORC CODE, 2012 EDITION – TABLE 1**

**SECTION 1 SAMPLING TECHNIQUES AND DATA**

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

Criteria	JORC Code explanation	Comments
Sampling techniques	<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>	ELF Petroleum conducted spot sampling of selected zones of logged potash salts. The sampling was not systematically undertaken. Geophysical logging was conducted of all oil wells.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	Due to the historical nature of the activities information with respect to the specific sampling methods is not available.
	<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>	The dominant purpose of the exploration undertaken across the Banio Project was in relation to oil and gas. As such the sampling undertaken was not systematic and typically spot samples within discrete broad zones of logged potash mineralisation.
Drilling techniques	<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>	Drilling completed at Banio was by Elf Petroleum, no description was provided towards method.
	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	No records exist of core recovery.
Drill Sample Recovery	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	No recovery and representativeness of the samples was recorded.
	<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>	Insufficient historical records exist relating to sample recovery to adequately assess the potential for sample bias.
Logging	<i>Whether core and chip samples have been geologically and geotechnically logged to a level of</i>	Geological logging undertaken was to the level of industry standards at the time in which the drilling was undertaken.



Criteria	JORC Code explanation	Comments	
Sub-sampling techniques and sample preparation	<i>detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i>		
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	Logging was undertaken qualitatively.	
	<i>The total length and percentage of the relevant intersections logged.</i>	Where logging has been undertaken, the entire length of the holes was logged in full.	
	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	No records are available with respect to the cutting and sampling of core.	
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	Not relevant. All core drilling.	
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation techniques</i>	Not relevant. All core drilling.	
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	No QA/QC procedures were documented by the previous operators	
	<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>	No QA/QC procedures were documented by the previous operators	
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	No sample size procedures were documented by the previous operators	
	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	No records are available with respect to the cutting and sampling of core.	
Sub-sampling techniques and sample preparation	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	Not relevant. All core drilling.	
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation techniques</i>	Not relevant. All core drilling.	
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	No QA/QC procedures were documented by the previous operators	
	<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>	No QA/QC procedures were documented by the previous operators	
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	No sample size procedures were documented by the previous operators	
	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>	XRy Diffraction method is described in the report relating to mineralogical analysis of BO2. No other laboratory methods are documented relating to the other

Criteria	JORC Code explanation	Comments
Verification of sampling and assaying	<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>	Downhole geophysical logging was utilised to assist with geological logging and interpretation. No geophysical tools were used for grade estimation.
	<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>	No QA/QC procedures were documented by the previous operators
	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	No record of independent verification exists
	<i>The use of twinned holes.</i>	No twinned holes
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	Drilling predates the use of field base data loggers and physical samples are not available. Grades reported in this announcement were cross referenced with original logs and assay reports.
Location of Data Points	<i>Discuss any adjustment to assay data.</i>	No adjustments were made to assay data presented in this report
	<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>	No references are reported with respect to the surveying methods utilised.
	<i>Specification of the grid system used.</i>	All coordinates provided were reported in historical local grids.
Data spacing and distribution	<i>Quality and adequacy of topographic control.</i>	The historical surveying of the elevation requires updating to modern industry best practices. A differential GPS survey of the collar coordinates and generation of digital terrain model is required. The available coarse topographic map indicates that the terrain is a coastal plain, flat to gently undulating.
	<i>Data spacing for reporting of Exploration Results.</i>	The drilling conducted at Banio is not on a grid or at a regular 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 drilling conducted at Banio is not sufficient to delineate a mineral resource.
	<i>Whether sample compositing has been applied.</i>	No sample compositing has been applied.
Orientation of data in relation to geological structure	<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>	Vertical drilling was utilised to drill through strata. Seismic and logging has indicated that the strata ranges from flat to moderately dipping.
	<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>	No drilling or sampling bias has been noted
Sample security	<i>The measures taken to ensure sample security.</i>	No record has been kept relating to the security of the samples taken by previous operators
Audits or reviews	<i>The results of any audits or reviews of sampling techniques and data.</i>	No record of audits or reviews by previous operators has been located



## 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	<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>	The Banio Licence (Licence Number DGPEM: NO. 652) is held by Mayoumba Potasse SARL, a 100% owned subsidiary of Equatorial Potash Pty Ltd which is 100% held by Plymouth Minerals Limited.
	<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>	The Banio Licence is currently in good standing and has no known impediments with respect to development.
Exploration	<i>Acknowledgment and appraisal of exploration by other parties.</i>	Oil and gas exploration activities have been undertaken historically by ELF Petroleum.
Geology	<i>Deposit type, geological setting and style of mineralisation.</i>	The Lower Cretaceous salt deposits of the Gabon Basin and Congo Basin were laid down on top of an Early Cretaceous-Late Jurassic, continental graben fill that represents the rifting phase of the Afro-American continent. The salt is characterised by high percentages of potash and magnesium salts and a scarcity of sulphates and carbonates.  The salt probably originated from a brine that was already enriched in highly soluble salts before entering the Gabon-Congo Basins.
Drill Hole Information	<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>	The drill holes reported in this announcement have the following parameters applied. All drill holes completed, including those without information or logs were reported
	o <i>easting and northing of the drill hole collar</i>	Easting and northings are in UTM- Zone 32 South
	o <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i>	RL is height above sea level
	o <i>dip and azimuth of the hole</i>	Dip is the inclination of the hole from the horizontal (i.e. a vertically down drilled hole from the surface is -90°) . Azimuth is reported in degrees as the direction towards which the hole is drilled. All holes were drilled vertically.
	o <i>down hole length and interception depth</i>	Down hole length of the hole is the distance from the surface to the end of the hole, as measured along the drill trace. Interception depth is the distance down from the surface to the end of the hole, as measured along the drill trace. Interception depth is the distance down the hole as measured along the drill trace. Intersection with is the down hole distance of an intersection as measured along the drill trace,
	o <i>hole length.</i>	Hole length is the distance from the surface to the end of the hole, as measured along the drill trace.
Data Aggregation Methods	<i>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.</i>	All results relating to the drill sections provided have been stated including “not significant intercepts”.
	<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>	No weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades have been applied.
	<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>	No aggregate intercepts have been applied to the data quoted

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	No metal equivalents are reported.
	<i>These relationships are particularly important in the reporting of Exploration Results.</i>	The intersection width is measured down the hole trace, it is not usually the true width. Cross sections provided in the announcement allow the relationship between true and down hole width to be viewed.
	<i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i>	The geometry of the mineralisation is predominantly perpendicular to the azimuth of the drilling
Diagrams	<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>	All drill results within this announcement are down hole intervals only and due to variable mineralisation, true widths are not able to be calculated until further diamond drilling has been conducted.
	<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>	A plan view and drill sections have been provided in this announcement.
Balanced Reporting	<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 including those with no significant interceptions have been reported.
Other substantive exploration data	<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>	No other exploration data is considered meaningful and material to this announcement
Further Work	<i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i>	Drilling to confirm the exploration target and determine the potential of hosting a mineral resource in accordance with the JORC 2012 Edition Guidelines is planned.
	<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>	Drill planning is in the process of being finalised and further releases will be made to market upon completion of the drill planning.